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Railway Age

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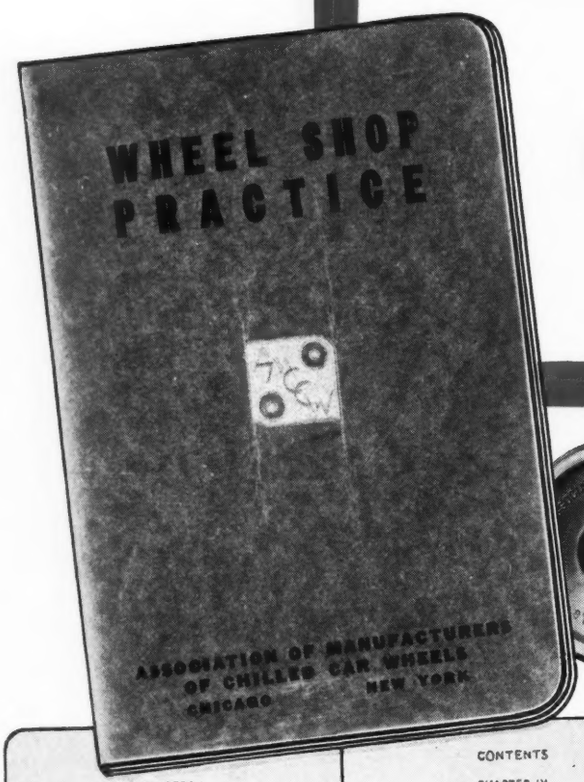

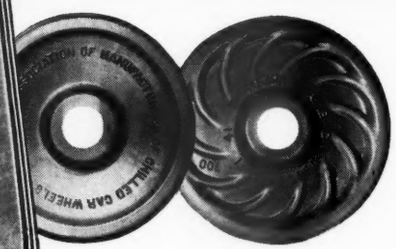

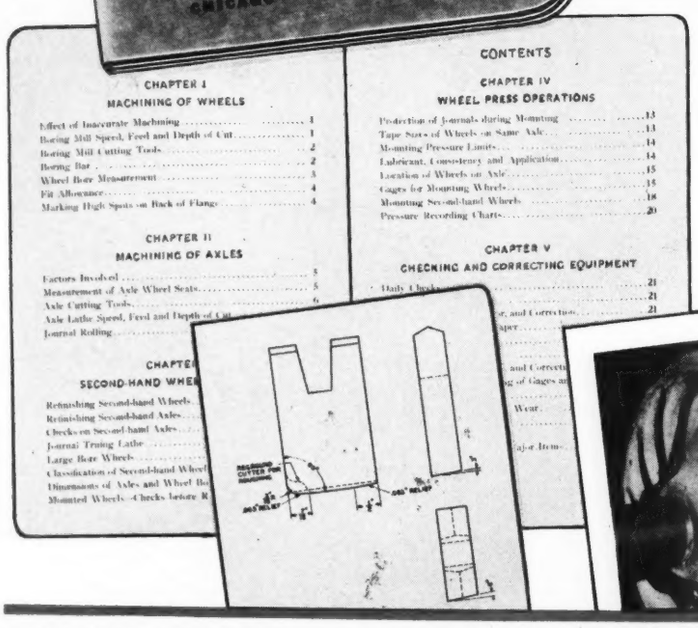

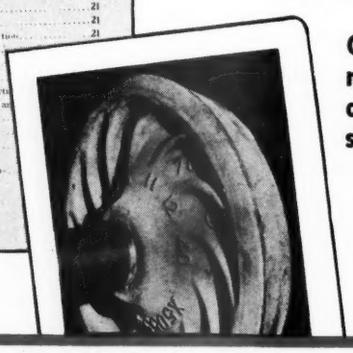

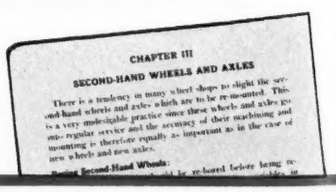

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Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933. at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies. 25 cents each. Vol. 111, No. 6.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Vol. 111 August 9, 1941 No. 6

Published every Saturday by the Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa., with editorial and executive offices: 30 Church Street, New York, N. Y., and 105 West Adams Street, Chicago, Ill.

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The Railway Age is a member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulations (A. B. C.)

Subscriptions, including 52 regular weekly issues, and special daily editions published from time to time in New York, or in places other than New York, payable in advance and postage free. United States, U. S. possessions and Canada: 1 year, $6.00; 2 years, $10.00; foreign countries, not including daily editions: 1 year, $8.00; 2 years, $14.00.

Single copies, 25 cents each.

H. E. McCandless, Circulation Manager, 30 Church St., New York, N. Y.

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RAILWAY AGE

How Much Are Railway Employees Paid?

David B. Robertson, president of the Brotherhood of Locomotive Firemen and Enginemen, evidently has been made the principal spokesman of the railway labor unions in the current controversy over wages and working rules. As stated in the *Railway Age* of August 2, page 209, he issued a "release" on July 28 in which he castigated railway management and this paper at length, expounded his economic and social philosophy, and gave some statistics from a report of the Railroad Retirement Board purporting to show in detail the pay of railway employees. He commented, "Analysis of these figures shows that less than 25 per cent of the 1,376,266 employees reported by the railroads in 1939 received $2,000 per year or over. * * * Forty per cent of these 1,376,266 workers were paid under $1,000 per year. * * * Thus we see that wages are not high and that they must be raised considerably to permit railroad labor to maintain its standard of living and increase it wherever possible." Mr. Robertson on last Sunday evening repeated some of these statistics and views in a national radio broadcast.

Why These Discrepancies in Statistics?

In its annual report for 1940, page 150, the Interstate Commerce Commission gave the total compensation in 1939 of Class I railway employees as $1,863,334,000. For 1,376,266 employees this would have been an average of only $1,354. But the Commission gave the average number of employees of Class I railways in 1939 as 987,675. For this number the total compensation averaged $1,886. Why the wide discrepancies between the statistics of the Commission and those of the Retirement Board given by Mr. Robertson?

First, the Commission's figure for the number of employees, as it says in a foot note, "is the average of 12 counts made at middle of month, and differs from the number of persons receiving pay during the month or year **regardless of whether for a long or short period.**" The Retirement Board's figure for number of employees—which it will be noted is 39 per cent, or 388,591, larger than the Commission's—was arrived at, on the other hand, by counting every single person who was employed for **any length of time whatever** during the year. It includes 129,927 who were paid less than $50; 44,127 who were paid $50 to $100; 58,336 who were paid $100 to $200; 82,995 who were paid $200 to $400, and 69,771 who were paid $400 to $600—a total of 385,156 who were paid from a minimum of less than $50 to a maximum of $600 for all the work they did during the year. There is, of course, no hourly or daily rate of pay on a railroad that would result in any employee getting less than $50, or even less than $600, for working a full year. Even at the absolute minimum of 36 cents an hour fixed for the railways by the federal government under the Fair Labor Standards Act a man would have to work only 208 eight-hour days a year to get $600.

Who, then, were these 129,000 "employees" who received less than $50 a year? Who were a large majority of the 385,000 who received less than $600 a year? Obviously, a very large majority of them were not regular employees at all, but extra men who were hired for only a few weeks, or even only a few days, to do extra work such as shoveling snow in terminals, and so on. And yet all these **temporary** employees were included to swell the total number, and thereby make it appear that average pay in 1939 was about $530 a year less than the Commission's figures show it was.

Second, no part of any employee's salary in excess of $300 a month is reported to the Railroad Retirement Board as a basis for levying the payroll taxes. Hence, according to the statistics quoted by Mr. Robertson from the Railroad Retirement Board, maximum annual pay appears to be $3,600, whereas there are many employees who receive more.

The Pay of Engineers and Firemen

For illustrations of much higher regular pay than those cited by Mr. Robertson, let us take a look at the facts regarding the bases upon which the members of his own union are paid, how much they get and how much they work for it. The Brotherhood of Locomotive Firemen and Enginemen includes engineers as well as firemen, and constantly competes with the Brotherhood of Locomotive Engineers for the memberships of the engineers. Therefore, we shall give figures for both engineers and firemen. There are few facts in the realms of economics or industry that it is as difficult to state in a way that will make them understandable by anybody excepting the "schedule" experts of the rail-

ways and the labor unions as the facts about how the employees who work on trains are paid, how much they are paid and how much they work for what they are paid. The principal reason is the so-called "dual basis" of pay—"hours or miles, whichever makes the more."

As a practical matter, however, it may be said with virtual accuracy that employees in train service are paid on a **mileage** basis.

A "schedule" is a contract, or an agreement equivalent to a contract, between a railway and a labor union representing a class of its employees. The "schedules" provide for rates of "daily" pay; but a "day's work" does not mean the same thing in railway train service that it means in any other kind of transportation or industrial employment. It means **not more** than a certain stipulated number of **hours worked** or of **miles run by the train;** and when the mileage equivalent to a "day" has been run an employee is entitled to a "day's" pay, and if more miles are run he is entitled to proportionately more pay, even though his mileage may have been run in only three hours, or even in only an hour and a half.

$458 a Month Demanded for 70 to 107 Hours Work by Engineers

In passenger train service either "five hours or less" or "100 miles or less" is a day's work for both engineers and firemen; and overtime must be paid for either more hours or more miles. The assigned runs of passenger engineers and firemen usually are in excess of 100 miles; runs of 150 miles are not unusual. Take, now, the typical case of an engineer on a passenger locomotive weighing 200,000 to 250,000 lb. on drivers, and having a run of 150 miles. His "basic day's" pay (for 5 hours or less, 100 miles or less) is $7.34; but because his run is 150 miles he gets 1½ day's pay, or $11.01, for making it. If, then, the speed of his train is 50 miles an hour he gets $11.01 for actually working only three hours—or $3.67 an hour; if its speed is 60 miles an hour, and many trains are now that fast, he works only 2½ hours, for which he gets $4.40 an hour; and if its speed is 70 miles an hour, as is now true of some trains, he works only 2 hours and 8 minutes, for which he gets $5.03 an hour.

What, then, does he make in a month? The **mileage** he can run in a month is limited by his labor union to 4,800 miles; and, as his basic pay for a "day" of 100 miles is $7.34, he can make only 48 x $7.34, or $352.32 a month—about $4,228 a year. If the average speed of his train is only 45 miles an hour he gets this monthly and annual pay for working 107 hours a month; at a speed of 50 miles, for working 95 hours a month—the equivalent of twelve 8-hour days; at a speed of 60 miles, for working 80 hours a month—equivalent to ten 8-hour days; and at a speed of 70 miles, for working 70 hours a month—equivalent to eight and a half 8-hour days. But, while limiting the **mileage** he can make, and **thereby limiting the amount he can make by working,** his union is demanding an advance in his "basic day's" pay from $7.34 to $9.54, or 30 per cent. After that his pay would be $458 a month, or $5,496 a year, for working, as shown above, only from 70 to 107 hours a month, depending on the speed of his train.

In actual operation many locomotive engineers running 4,800 miles per month receive, at the higher rates and differentials in mountain and desert territory, supplemented by guarantees, special allowances and arbitraries, $375 per month, or $4,500 a year, for from 70 to 120 hours of actual service monthly; and, by the 30 per cent advance demanded, their monthly pay would be increased to $488 per month, or $5,856 a year.

Firemen Want $361 a Month

The fireman on the same passenger locomotive used in the above illustration is now entitled to $5.78 for 100 miles or less, and, therefore, receives $8.67 for 150 miles. At a speed of 50 miles an hour his pay is $2.89 per hour; at a speed of 60 miles, $3.47 per hour; and at a speed of 70 miles, over $4.00 per hour. At the basic rate of $5.78 for 100 miles he receives $277.40 per month, or $3,329 a year, for running his maximum permissible mileage in 70 to 110 hours a month—the equivalent of 8½ to 14 eight-hour days a month. The advance of 30 per cent demanded would increase this to $360.62 a month, or $4,327 a year—for the amount of work stated.

In freight service, "eight hours or less, 100 miles or less," is the basis of a day's pay. This assumes a speed of 12½ miles an hour; but the average speed of all freight trains in 1940 was 16.7 miles; through freight trains now operate at an average of nearer 35 miles; and many are regularly operated at an average of 50 miles an hour. An engineer on a freight locomotive weighing from 300,000 to 350,000 lb. on drivers receives $8.79 for 100 miles or less in through freight service and $9.31 for 100 miles or less in local freight service. A fireman on a coal-burning locomotive of the same weight receives $6.67 for 100 miles or less in through freight service and $7.07 for 100 miles or less in local freight service. Through freight trains on main lines at 35 miles an hour are run over a district of 150 miles in 4 hr. 17 min. For this run of 150 miles the engineer receives $12.96 and the fireman $10—equivalent to about $3 an hour for the engineer and $2.30 an hour for the fireman. The advance of 30 per cent in basic rates of pay demanded would increase the engineer's pay for this 4 hr. 17 min. work to $16.85, or $3.90 an hour, and the fireman's to $13, or about $3 an hour.

Why Mr. Robertson Avoids Engineers' and Firemen's Pay

These figures regarding pay of engineers and firemen plainly indicate why Mr. Robertson gave figures from the report of the Railroad Retirement Board purport-

ing to show how poorly a large majority of railway employees—including some hundreds of thousands of casuals employed for only a few days or weeks each year—are paid **rather** than figures showing the short hours worked, the high pay received and the much higher pay being demanded by the engineers and firemen belonging to his own union. It is hard to present to the public a convincing case for a 30 per cent advance in the pay of engineers already receiving $4,228 a year for working the equivalent of only from eight and a half to fourteen eight-hour days a month, and in the pay of fireman already receiving $3,329 a year for working about the same amount of time.

In his release of July 28 Mr. Robertson said, "One would think that with the millions of dollars spent by the railroads through their various advertising activities and the allied organizations which they support directly and indirectly they would be able to command a higher type of talent in dealing with labor. One would think that they could obtain better advice. With the great strides made in the rising field of public relations one would certainly think that the rails could obtain public relations counsel more aware of the advances which have occurred in the fields of American labor and industry during the past two decades."

Labor Union Versus Railway "Public Relations"

In a sense this paper agrees with Mr. Robertson. The railroads have not been successful in dealing with their labor problem; therein, in fact, has been their greatest failure. They have allowed the minds of their employees to be poisoned and the public mind to be confused and misled by just such propaganda as that of Mr. Robertson, because they have lacked the skill or courage to so refute misrepresentations emanating from labor union sources as to give employees and the public a correct understanding of the facts. The labor unions are always on the offensive; the railways usually on the defensive. The labor leaders broadcast to employees and the public what they want them to believe, and do not mince matters in criticizing and denouncing management.

The railways stick to the facts in their presentations, and don't even broadcast all the facts when they believe that presentation of some of them would be offensive to the labor leaders, and perhaps to the employees. The result is written large in the net operating income of the railroad industry within recent years. It exceeded a billion dollars 25 years ago, in 1916; it averaged a billion dollars a year in the ten years ending with 1930; and it averaged only 519 million dollars in the ten years ending with 1940. Meantime, the average annual pay of all employees increased from $892 in 1916 to $1,714 in 1930 and to $1,913 in 1940; and by the 41 per cent average advance now demanded it would be increased to $2,697.

Indexes to Volume 110

The indexes to the latest volume of the *Railway Age,* January to June, 1941, are now ready for distribution and copies may be had by those subscribers desiring them. Requests should be addressed to the Circulation Department, *Railway Age,* 30 Church Street, New York. Subscribers who have in previous years made application for the index need not apply again; they will continue to receive it as long as they continue to subscribe.

What About R. R. Jobs 5 Years From Now?

"We must produce transportation cheaply enough to be able to sell our services in competition with other kinds of transportation which have developed into formidable competitors during the last twenty years. When the present emergency has passed, we must anticipate even more serious competition from these newer forms of transportation.

"The security of our jobs five or ten years from now will depend largely on how successful we have been in increasing the efficiency and decreasing the cost of railroad transportation as compared with other forms of transportation.

"Should we fail in this, no device of legislation, seniority or government ownership will assure for all of us the security of our employment in the railroad industry which too many of us, I fear, are inclined to take for granted.

"Our problem is made tremendously more difficult by the fact that as a nation we have assented, for the time being at least, to a new policy with respect to transportation. That policy, as you know, is to lower the selling price of transportation by shifting a substantial portion of the cost to the taxpayer in the case of the newer forms of transportation; and by relieving them of comparable taxation and other responsibilities and obligations which have been imposed on railroad transportation.

"Except for pipe lines, the railroad is the only kind of transportation which furnishes and maintains all of its own facilities at its own expense, and pays heavy taxes on them besides.

"The security of our employment five or ten years from now may depend in a large measure on whether these inequalities are eliminated, diminished or increased.

"Meanwhile all of us should face the fact that those who buy transportation are not likely to be swayed to any considerable extent in making their choice as between our railway and other kinds of transportation by any considerations other than the price they have to pay and the kind of service, including treatment, they get for it."

—From the Annual Report of President Gavin to Great Northern Employees

Union Policy and Competitive Rates

All railroad traffic is competitive, but the competition is more severe with some types of traffic than with others. Some tonnage is "rail bound." That is, it cannot move by other forms of transportation and, if it moves at all, must pay whatever rates the railroads charge. But even "rail bound" tonnage is subject to the competition of "decentralization" and of technological improvements in industry which reduce the quantity of transportation. This competitive condition is a hard fact, which cannot be avoided. The sensible and successful man does not disregard such facts but, by embracing them in his plans, makes them work for him, instead of against him.

About the only traffic on which railroad rates could be increased without, in the long run, the strong probability of losing potential customers to competing agencies of transportation, or to "decentralization," is the tonnage now being dumped on the carriers by shippers who ordinarily (and despite any concessions the railroads might make) will use boats or trucks by preference. Such shippers are now using the railroads merely as a convenience during the shortage of other forms of transportation—and there is no occasion, either from the standpoint of sound business or the public interest, to be unduly concerned about the rates which such customers might be called upon to pay.

But such traffic represents only a minor fraction of the total. The remainder is business which (when the present shortage of transportation is relaxed) will either stay on the rails or not—depending on whether the price and convenience of rail transportation compare favorably with such alternatives as trucks or barges or "decentralization."

It has been the contention in this series (so far, not disputed by anyone) that the carriers have so far not utilized to the full, in competitive situations, the natural economy of their service in the making of rates which would hold and attract traffic to the rails. The principal reason that the carriers have hesitated to make such rate changes is that *reductions in prices to build long-run business usually entail temporary losses,* and such losses the carriers have heretofore felt unable to assume. The losses attendant upon the railroads' steadily dwindling share of the nation's transportation work are a burden spread out over a long sequence of time—and hence are more bearable than an acute, and possibly, sharper *corrective* loss, concentrated into a period of a few months.

The improved traffic and revenues of recent months have seemed to your observer to offer an opportunity, which may never come again, to absorb the temporary losses of a traffic-building readjustment in competitive rates. Such losses would be noticed to only a limited degree, in such a period as the present. But the benefits of such an adjustment should be reflected in railway traffic, earnings and employment over an indefinite number of years which lie ahead. Such adjustments, if they actually achieved their objective would redound as much to railway labor as to any other interest.

It is only from the maintenance of railroad traffic that there can be any "security" of railroad employment or pension payments.

The railway labor organizations, however, have chosen to ignore the opportunity which the present occasion offers the railroads to strengthen the future security of railroad jobs and pension payments. Instead they say, in effect: "Let us get ours now while the getting is good—and let the future take care of itself."

The enormous wage increase demanded by the railway unions would, probably, if granted, foreclose any opportunity for the railroads to use present increased earnings as a basis for strengthening their future traffic and employing power. Instead, the increase the unions are demanding would almost entirely wipe out all net railway operating income, and would force the carriers to seek compensatory rate increases. Instead of encouraging the carriers to use their present unique opportunity to *strengthen* their future competitive position (and their employing power), the unions are, in effect, insisting—not only that the carriers let this once-in-a-lifetime chance slip by; but also, by rate increases which large wage increases would necessitate, that they enormously *weaken* their competitive position for all future time.

Truck traffic *on the existing basis of competitive rates* has continued steadily to advance more rapidly than railroad traffic. The rate increases the railroads applied in 1938 to compensate for the 1937 wage increase gave a great impetus to competitive trucking (with consequent harm to railroad employment and depletion of the pension fund). Now the railway unions are asking that a further and even harder blow be dealt to post-war traffic and employment. In 1933 Professor Sidney Miller wrote (prophetically as it has turned out):

"In the face of price competition that grows increasingly keen . . . railway workers must choose between a small volume of employment at high wage rates and a greater volume at lesser rates . . . But there is little to indicate that railway labor has made an economic analysis of the problem with which it is faced and has recognized the necessity in self-interest of major concessions in both restrictive rules, where such exist, and rates of pay."

Since Professor Miller wrote those words, the Railway Retirement Act has been enacted—which gives even the "old heads" a direct interest in maintaining railroad employment (so that the pension fund may remain solvent). But still there has been no realistic facing by railway labor of the competitive condition which it is up against. Instead, railway wages are already 20 per cent higher and working conditions far more onerous (by reason of interpretations by Adjustment Board referees) than they were when Professor Miller signalized the danger to railway employment in such conditions. And now, the organizations seek to pursue to still further lengths their attempt to ignore economic facts which control the future livelihood of their members.

A fellow who goes along ignoring facts may seem to get away with it for a time—but finally he wakes up from his pleasant dream to find that, while he wasn't looking, somebody pulled the pin on him.

A Diesel Locomotive Undergoing Repairs at the Santa Fe's Diesel Shops in Chicago

What Terminal Facilities for Diesel-Electric Power?*

As a result of the introduction of locomotives of this type it has been necessary to provide special equipment for servicing and repairing them

At least 17 railroads are employing Diesel-electric power in passenger service, while the use of Diesel switchers, already extensive, is being broadened. As a consequence, it has become necessary for those roads using such power to provide facilities for its proper care and maintenance. Insofar as possible, existing facilities are being used for this purpose but, as these are not always adequate or suitable, it is necessary in many cases to provide new facilities.

The fuel, sand, radiator water and crank-case oil in Diesel-electric locomotives must be replenished from time to time and the engine must be thoroughly inspected periodically. The ideal situation would be to locate the fuel tanks or supply lines, the inspection pit and the sand house in such a manner that all of the servicing operations could be performed with one spotting of the locomotive. The inspection pit should be in such a location that the motors, journals, etc., can be inspected while the locomotive is being serviced.

Fueling Facilities

Depending on local restrictions, the fuel tanks may be placed either above or below the ground. With the tank set above ground so that its bottom is about eight feet above the top of rail, gravity fueling is possible. In that case, however, fuel must be pumped from the tank car to the storage tank. For this purpose an electric pump, with a capacity for handling at least 100 gal. per min., should be provided and so arranged that, in case of emergency, the fuel can be pumped directly from the tank car to the locomotive.

In some instances gravity fueling may prove to be too slow, in which event a pressure system will be required. In such installations both the pump and the track should be thoroughly insulated to prevent any sparking. Strainers should be provided for both the inlet and outlet lines and should be so installed that they may be removed readily for cleaning, as it is essential that fuel oil be entirely free from foreign matter. A meter should be placed on the supply line so that it will be possible to determine the amount of fuel consumed per unit of work performed, and to measure the quantity of fuel received.

At points where fuel oil is readily available, a storage tank with a capacity of from 15,000 to 20,000 gal. will generally be sufficient. If it is advisable to purchase oil in more than single carload lots, the storage capacity must be increased accordingly. The sand house should be provided with at least two flexible pipes of sufficient length that, when the locomotive is properly spotted, they will reach all of its sand boxes.

The most common repairs required by Diesel locomotives, in addition to those which can be made at the inspection pit, are the replacement of rings and cylinder liners, the adjustment of bearings, and the turning of

* Abstracted from a report presented at the convention of the American Railway Engineering Association in March by a subcommittee of the Committee on Yards and Terminals. H. C. Lorenz, assistant engineer, Cleveland, Cincinnati, Chicago & St. Louis, Cincinnati, Ohio, was chairman of the subcommittee.

wheels. Shop equipment must be provided to the end that all of these repairs can be made quickly and easily. Experience with the care of Diesel-electric locomotives indicates that, for economical maintenance operations, facilities somewhat different from those for steam locomotives are required. Facilities are required, first, for running repairs at outlying points and at major terminals, to avoid interference with regular shop routine; and, second, for repair shops where heavy or classified repairs are handled. It seems desirable that facilities for servicing Diesel-electric power units should be kept apart from the coach-yard facilities and should be properly housed. As to trackage and turntable requirements, the equipment used in the steam-locomotive terminal will also serve the Diesel locomotives.

Facilities for Running Repairs

In making running repairs, it is necessary to remove the trucks from Diesel-electric power only occasionally, but there is frequent need for the removal of wheels. The motors also must be removed occasionally. It seems, therefore, that the minimum requirement is for a two-screw drop-pit table, equipped with a drop-pit machine of sufficient capacity for the power handled. This unit should have detachable table tops, 6 ft. 6 in. across the pit and 9 ft. 6 in. parallel with the pit, and should have a drop of 4 ft. There should be a floored depression at least 12 in. deep between the table-top rails. To obtain all working space possible, the adjacent floor should be level with the base of rail. A checkerd plate floor is desirable. The pit should be so located that any wheel of the Diesel locomotive may be removed without moving the locomotive beyond the doors of the shop or without fouling adjacent tracks.

Service tracks should have inspection pits, and some roads recommend a small pit in the release track large enough to accommodate workmen when removing such parts as motors, gears, etc. The inspection and drop pits should be adequately lighted and the drop pits should be effectively drained and equipped with steps.

As the parts to be handled have considerable weight, it is recommended that a light traveling crane be provided. This crane, which should be of the one, two or three-motor type, should afford an adequate lift, and should be operated from the floor if it is to serve only the release track. If it is designed to serve two or more tracks, it should clear the tops of the locomotives so that it can handle the interior parts. The crane bridge should be parallel with the length of the drop pit, and should pass over the drop pit and its release track.

A western railroad has installed a two-screw drop-pit table with a detachable top. This table has a capacity of 35 tons, a 4-ft. drop and a speed of 3 ft. per min. The dimensions are 6 ft. 6 in. across the pit and 9 ft. 6 in. parallel with the pit. For handling parts removed, a 10-ton overhead traveling crane was provided to serve the release track only.

Shops for Heavy Repairs

In designing shops for making heavy repairs to Diesel-electric power, the width of the building will be determined by the number of tracks required, usually two or three at 24-ft. centers, and by the necessity for providing ample space on each side. The length will depend upon the number of locomotives to be handled, allowing adequate space between and at the ends of locomotives. A machine shop bay should be provided, approximately opposite the center of the building, including space for an electric shop, air brake room, tool room, paint shop, wash room, toilets, offices, etc. For convenient access to the machine shop bay, a broad walkway should be provided, extending transversely across the main building and the tracks. There should be an overhead cab-operated traveling crane of ample capacity, with a runway extending the full length of the building at a sufficient height to permit the handling of parts from within the locomotive as well as locomotive trucks, etc.

Inspection pits should be of sufficient depth, with steps at each end, and adequately lighted and drained. The floor of the shop may be level with the top of rail; however, some railroads prefer to have the top of rail about one foot above the floor to facilitate truck repairs, in which case the cross walk should be level with the top of rail, with ramps to the lower level on each side. Provision should be made for jacking at any point on both sides of the tracks.

Truck and Wheel Removing Equipment

Various types of equipment are now being used to remove trucks and wheels. The four principal types are enumerated below, together with a few examples indicating variations and combinations of the several types.

(1) Electric high-lift portable jacks for the removal of trucks seem to be preferred at this time, as a pit is not required and it is not necessary to spot the locomotive accurately. However, head room should be considered, as well as the necessity for disengaging connections for both trucks where only one is to be removed. Jacks having a capacity of 25 tons are obtainable for switchers, while 35-ton jacks are available for road units. When raising the locomotive body, the load is carried on a base casting instead of the wheels of the jack.

The column jack with side lifting bracket and large base gives greater stability and safety than the conventional pedestal jack. Each jack is equipped with a motor, and push-button control. Through proper plug-ins of the control cable, each jack can be operated from its own push-button station or one pair or two pairs can be operated simultaneously from a single push-button station. An eastern railroad handles its locomotives at Cleveland, Ohio, with four of these jacks. A steel corporation at Cleveland uses four of the 25-ton jacks for handling its switchers, and a southwestern railroad uses four 35-ton jacks for its streamlined passenger units.

(2) Two traveling cranes of ample capacity may be used, one at each end of the locomotive, for raising the locomotive body to permit the trucks to be released. For large-scale operations, where numerous units are handled, this method is not objectionable; however it is generally believed that for most shops its cost would be too high.

100-Ton Drop Pit

(3) A drop-pit table of 100-tons capacity with detachable table tops, 22 ft. long across the pit by 12 ft. wide parallel with the pit, provides an economical arrangement. The tops should be of the plain type, with a depression approximately two feet deep between the rails. Checkered plate flooring should be provided on the table top outside the rails, at either the level of the base or top of the rail, as required. Such a machine should have a hoisting speed of two feet per minute, should be motor racked with a speed of 25 ft. per min., and should be equipped with a spring-operated cable take-up reel. The truck drop should not be less than four feet.

Two of these machines are in service on a western railroad, one at Denver, Colo., and the other at Los Angeles, Cal. Still another is in service on an eastern

railroad at Boston, Mass., for handling the trucks of a streamlined passenger train. This type of machine is a satisfactory facility for railroads having a limited number of Diesel locomotives, and experience has demonstrated that it can serve three service tracks economically.

In 1934, a drop pit with table and crane for handling the trucks of power units, coaches and sleepers was installed by a western road at a point adjacent to its passenger yard at Chicago. For inspecting the under sides of the cars, a short inspection pit was installed, together with fuel-oil facilities, condensate lines for furnishing water to heating boilers, air conditioning outlets, etc., and special connections for water, steam and air. Since that time the railroad has installed longer inspection pits, larger capacity drop tables, car pullers, etc., and has provided similar facilities at Minneapolis, Minn., St. Louis, Mo., Denver, Colo., and Lincoln, Neb.

Uses Transfer Table

(4) A southwestern railroad employs a transfer table for the handling of Diesel locomotive trucks at its engine terminal in Chicago. The procedure is to run the power truck on the transfer table and then jack up one end of the locomotive about eight inches by means of power-operated jacks. The transfer table is then racked sidewise to a releasing track where the power truck is rolled off to an overhead 10-ton crane for dismantling. The objection to this low-cost installation is that there is a tendency for center-plate clamping action to take place on switchers with short wheel bases when only one end of the locomotive is raised eight inches (or higher on some locomotives because of skirting). The open pit is also objectionable.

A belt railroad, operating in a large Gulf city, has adapted its steam locomotive terminal shop for the servicing and repair of Diesel-electric switching locomotives.

For use at turn-around points where heavy repairs are not made, some railway officers recommend the two-screw drop table, previously described. This machine would be accessible for quick work on running repairs without interfering with regular shop equipment. It seems to be the ideal equipment for removing single pairs of wheels with or without motors.

Sectional Drop Table

Some roads prefer a sectional drop table of approximately 100 tons capacity, serving two service tracks, because it requires less head room and power and is faster in operation than jacks. Each track is equipped with a main top, having within the top either one or two auxiliary tops, and a release track is provided between the two service tracks. With this arrangement, four and six-wheel trucks can be dropped on the main and auxiliary tops, and individual pairs of wheels on one of the auxiliary tops. The length of the main top is 22 ft. across the pit, while the length of the auxiliary top is 6 ft. 6 in. to 7 ft. 6 in. A northwestern railroad has a table of this type at its Chicago shops and another road has one in Minneapolis, Minn., both of which are used to handle streamlined Diesel locomotives. An eastern railroad also uses a table of this type.

Other equipment that is usually required by the mechanical department for handling Diesel-electric locomotives, and which should be considered in connection with the design of facilities for servicing and repairing such equipment, includes a 300-ton hydraulic press, a wheel lathe, portable grinding machines, engine lathes, boring mills, planers and shapers. Most repair parts, when purchased, are finished by the manufacturers, and the greater part of the repair work consists in assembling and adjusting such parts accurately.

The Diesel-electric locomotive is different from the steam locomotive in that it has most of its mechanism above the deck, and there is considerable loss of time if the workers must frequently move to the floor and return. For this reason, fixed or movable platforms as high as the locomotive deck, fitted with steps or risers, should be provided. The platforms should contain lockers, benches, bench tools and small repair parts.

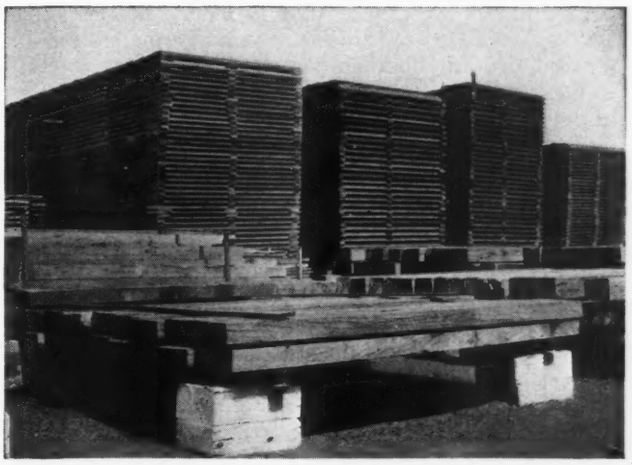
Design Details to Facilitate Repairs

To facilitate the making of repairs on Diesel-electric locomotives, conventional jacking pads should be located at the ends of the body bolsters at the middle of each truck. Where the lifting equipment consists of electric high-lift jacks, the jacking pads at these locations may be used. Unfortunately, some manufacturers of Diesel-electric locomotives have placed cab ladders at this point, with the result that they must be removed before the jacks can be placed in position. Furthermore, these ladders foul the locomotive truck if the truck transfer table is used, and they must be removed before the trucks can be moved sidewise. The ladders should be located on the side sills beyond the ends of the truck. If jacks are to be used in the removal of trucks, the bodies of Diesel-electric locomotives should have a width of at least one foot in excess of the widest part of the truck, so that the necessary clearance will be provided between the jacks to permit the trucks to be rolled from beneath the locomotive.

When drop-pit tables are used for removing trucks and wheels, it is highly important to place additional jacking pads on the side sills of locomotives immediately behind the trucks, thus making it possible to support the locomotive body at the side walls of the pit while the truck is being lowered. In doing work of this kind on a drop-pit table, the jacking pads at the bolsters are over the pit and are therefore of no value.

Where possible, Diesel-electric switchers should each have a set of jacking pads at the extreme end of the locomotive near or at the end sill. All types of Diesel-electric locomotives should be so designed that the ends can be supported on shop trucks for movement to a new location after the regular trucks have been removed. It is recommended that the truck pedestals on switchers be so arranged that a pair of wheels can be moved a sufficient distance in the pedestal to simplify wheel removal, either with or without the motor.

* * *



Storing Lumber on the Chicago & North Western

Electric Locomotive Operation*

Experience with electrification on heavy traffic lines affords more accurate measure of its value

By H. C. Griffith

Electrical Engineer, Pennsylvania Railroad

THE summer of 1938, just three years ago, marked the completion of the electrification project inaugurated by the Pennsylvania Railroad in 1927, over ten years before, thus bringing to fulfillment a program which has put into electric operation 675 miles of line embracing the most heavily traveled portion of the railroad system. Geographically, the electrification extends (Fig. 1) over the lines from New York to Philadelphia and Washington to the south and from New York via Philadelphia to Harrisburg on the west. It includes a number of by-pass lines which permit the movement of freight over low-gradient routes and avoid some of the more congested terminal sections.

Over the 2,195 miles of electrified trackage has been constructed an 11,000-volt catenary-type trolley-wire system supplied with electric power over a network of high-voltage transmission lines feeding from the main power connections to the substations distributed along the lines. The 11,000-volt overhead-trolley-type system was selected after a thorough investigation and adequate tests extending over a period of years since the first test installation in 1908. Single-phase, 25-cycle power was selected as the most satisfactory type for the movement of heavy transportation units at high speed over a system with traffic as dense as that in the electrified territory. An indication of the traffic handled by the electrification is given by the following figures:

In passenger service, 125,000,000 car-miles are made per year, which is the equivalent of a ten-car train circling the earth 500 times a year.

In freight service, over 7,300,000 locomotive-unit-miles are made per year, hauling approximately 15 billion ton-miles of freight cars and their contents, the equivalent of a train of 100 forty-ton cars circling the globe 150 times a year.

In addition to this service handled by locomotives, nearly 15,000,000 car-miles per year are made by multiple-unit cars in suburban passenger service.

The foregoing figures represent traffic corresponding to the business of 1940. The present indications are that this traffic will be considerably exceeded during 1941 and probably by a greater amount during 1942. As far as can be foreseen this traffic will not exceed the volume which was anticipated when the electrification was planned. The railroad is making traffic volume the subject of continued study so that normal business and that required by our National Defense plans will be expeditiously handled.

To move the electrically operated trains both in passenger and freight service, there was available an average of 118 electric locomotives for the passenger service and 93 electric locomotives for the freight service. With the exception of a relatively few experimental types of locomotives, there is a total of 200 electric locomotives of two distinctly different types.

One type known as the P5a (Figs. 2 and 3) is a 4-6-4 locomotive having three driving axles with 220,000 to 229,000 lb. total weight on these axles. Each axle is equipped with a twin motor geared to a quill shaft and equipped with flexible spring members engaging the spokes of the driving wheel for propulsion. The nominal rating of the locomotive is 3,750 hp. and is capable of producing 6,400 hp. for short periods of time, as explained later. The locomotives of this type are assigned to freight service and are geared for a maximum speed of 70 m.p.h.

The second type of locomotive, known as the GG-1 (Fig. 4) is of the 4-6-6-4 type with articulated chassis and single cab unit extending over the complete running gear. The six driving axles are each equipped with twin motors, driving through a quill as in the case of the P5a locomotive. The total weight on driving axles is 300,000 lb. Nominal rating in horsepower is 4620 with the ability to develop, for short periods of time, 8,520 hp. Fifty-seven locomotives of this type are equipped with 90-m.p.h. gearing and the remaining 52 are equipped with 100-m.p.h. gearing. The GG-1's with 100-m.p.h. gears are used at all times in the passenger-locomotive pool. Those with the 90-m.p.h. gearing are used in both passenger and freight service, the number available for the freight locomotive pool depending on the demand at the time for locomotives to handle adequately the passenger service. The relative number used in the two services varies from day to day.

Steam, Diesel, and Electric Locomotive Characteristics Compared

Discussion of electric-locomotive operation before a group of mechanically minded engineers should include a brief summary of basic differences between the three principal types of locomotives now receiving major consideration, namely, steam, Diesel, and electric.

The maximum drawbar pull the steam locomotive is capable of exerting is determined by certain design features, i.e., steam pressure, cylinder proportions, driving-wheel diameter, and weight on drivers. Sustained drawbar horsepower is a function of the ability of the boiler to supply steam. The drawbar pull falls off rapidly as speed increases, because of the necessity of shortening the valve cutoff to keep within the steam-generating capacity of the boiler. The steam locomotive is, however, fully self-protected, in that maximum drawbar pull may be maintained without damage to the locomotive.

Diesel-locomotive capacity is determined by the horsepower available from the Diesel engine which has little or no overload capacity. If the drive between the Diesel engine and the locomotive wheels is of the usual electrical type, the electrical apparatus would be expected to have

* Paper presented at the semi-annual meeting of The American Society of Mechanical Engineers, held in Kansas City, Mo., June 16-19, 1941.

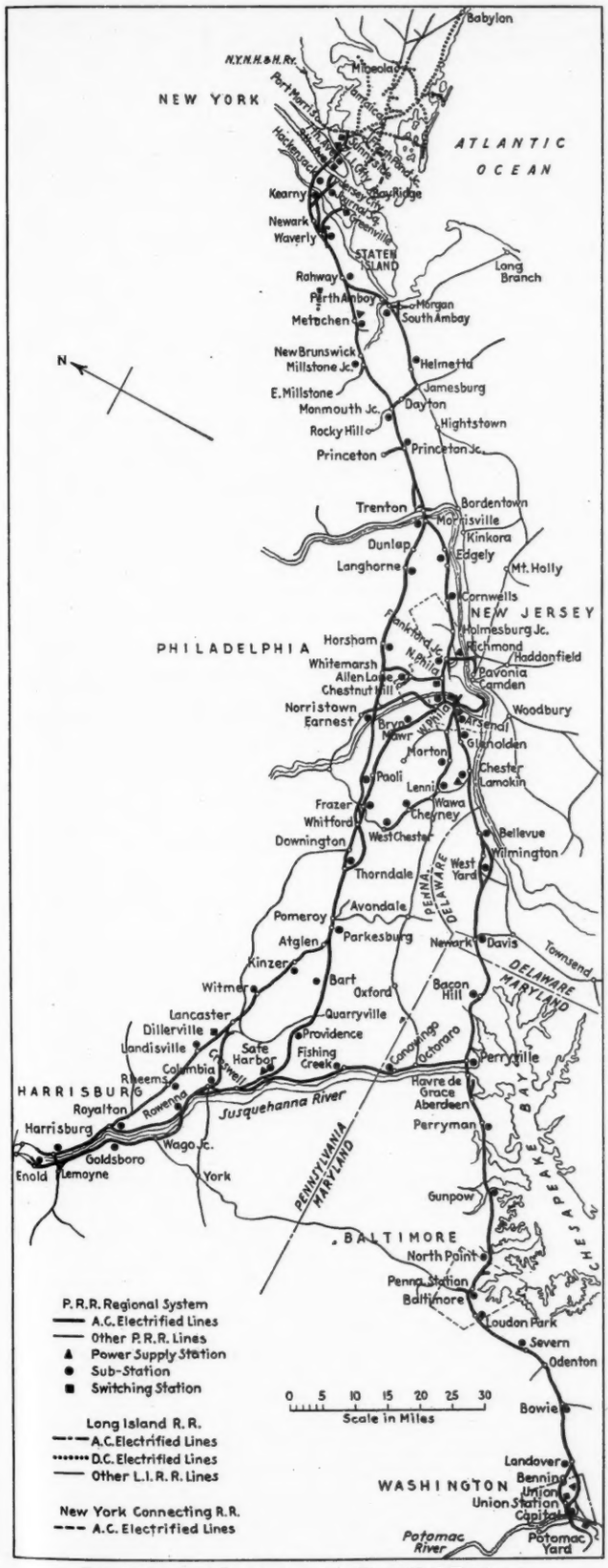


Fig. 1—Map of Pennsylvania's Electrified Territory

sufficient continuous capacity to utilize the output from the Diesel engine.

Electric locomotives are not limited in their horsepower capacity either by a boiler or by a Diesel engine. They obtain their power from a supplying electrical system which, when considered in comparison with a single locomotive, has relatively unlimited power. The motors are designed to deliver for short periods power approximately 75 per cent in excess of their continuous rating and this ability, backed up by a large power system, enables the locomotive to exert power considerably in excess of its continuous rating for short periods of time. This enables the electric locomotive to accelerate a train or negotiate a relatively short grade on a rolling profile at rates considerably in excess of its continuous rating. This feature is a basic difference between the electric locomotive and the other two types of locomotives mentioned, and every effort is made to take full advantage of it to obtain economical operation.

The ability to carry overloads is an inherent characteristic of electrical equipment. The reason for this is that the rating is based upon two functions, namely, the amount of power handled and the time required to heat the equipment up to its temperature limit. What is known as the continuous rating is the amount of power which can be handled for an indefinitely long period without exceeding the temperature limit. The overload ratings are based upon handling greater amounts of power for proportionately shorter periods with no greater amount of heating.

Drawbar-Pull-Speed Characteristics

Since the rolling type of profile mentioned is most common, except in extremely mountainous territory, full advantage of the overload ratings can be taken on ascending grades, since on descending grades, with forced ventilation normally designed into the equipment, cooling is rapid.

Typical curves of drawbar-pull-speed characteristics for the three types of locomotives, Fig. 5, show these features. Attention is called to the wide spread between the electric-locomotive continuous rating and the short-time maximum rating. This is significant because a locomotive seldom operates at continuous rating for any appreciable length of time. When overload capacity is available, the locomotive is generally operated above the continuous rating for short periods as required and thereby handles heavier trains. The method used for taking advantage of this feature is brought out later in the working out of tonnage ratings.

The limitation imposed on the three types by the percentage of weight on drivers that can be utilized before slipping occurs is considered the same for each and is approximately 25 per cent.

Curves of the drawbar-pull-speed characteristics of the three types of locomotives operating on a one-per-cent grade, Fig. 6, bring out the effects of the relative locomotive weights of the three types in reducing their net pulling capacity on grades.

The motors of electric locomotives, as well as those of the Diesel, must be protected from excessively heavy overload currents which occur at standstill and low speeds. This protection is usually supplied by overload or temperature-type relays. Under certain conditions of design the slipping of drivers when caused by the application of excessive power may also provide protection.

To assist in obtaining the maximum operating results from the electric locomotives, the operating departments are supplied with tonnage rating sheets for the different types of locomotives in both freight and passenger service covering the operation between the principal terminal points.

The working out of initial tonnage ratings was a vitally important prelude to starting electric-locomotive operation and its importance warrants a more detailed description. It was necessary to collect certain information

as a preliminary to working out these tonnage ratings. This information was as follows:

(a) Curves covering the heating and cooling characteristics of the motors, the tractive force available at different speeds and different positions of the master controller, information which was furnished by the manufacturers as a result of shop tests of the equipment.

(b) The profiles, alignments, and speed restrictions of the several routes to be used, information which was

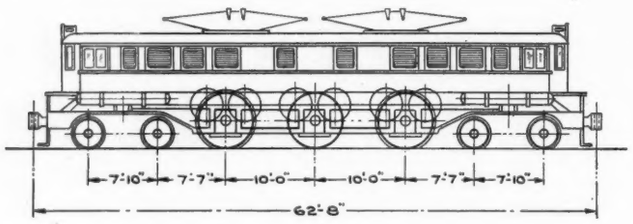


Fig. 2—General Specification, Class P5A Locomotive, 70 M. P. H. Gears (Original Cab Design)

Total weight, lb.	392,000
Weight on drivers, lb.	220,000
Weight per driving axle, avg. lb.	73,333
Weight on each truck, lb.:	
No. 1 end	85,000
No. 2 end	87,000
Starting tractive force, lb.	55,000
Maximum speed, m.p.h.	70
Continuous tractive force, lb.	28,700
Continuous speed, m.p.h.	49
Continuous horsepower	3,750

available in the timetables, operating instructions, and other records of the railroad.

(c) The maximum permissible temperature rise for electrical parts, which was furnished by the manufacturers on the basis of the insulation used in the equipment.

With this information at hand, a series of calculations was made for each route and each type of locomotive, as follows:

First, a tonnage was selected which it was believed the locomotive could handle over the route under consideration and stay within permissible temperature limits. Starting from the initial terminal with comparatively cool motors, a plot was made on paper of the run over the profile in a manner as nearly approaching the actual operation as possible. Accelerations were assumed to be as rapid as the engine could produce. All slowdowns and stops required by the speed restrictions or the schedule were observed. Full advantage was taken of the momentum of the train in negotiating adverse grades. A detailed record was set down of each change of tractive effort, speed, and grade, and of the distance covered and time required between such changes. By utilizing the heating and cooling characteristic curves, the temperature rise at each point on the route was determined. If it was found that the permissible temperature of the motors was exceeded at any point, the run was recalculated with a lower tonnage. Similarly, if the permissible temperature was not reached, a new calculation was made using a heavier train. In this manner the maximum tonnage which the locomotive could handle over each route without damage to the equipment was determined.

It is important to note that after the ratings had been determined by calculation as outlined, they were checked by making actual runs with temperature readings, taken on the motors. These measurements have closely checked the calculations. In no case has it been necessary to reduce any of the calculated ratings.

It is a well-known fact that the resistance to motion along the track is less per ton of weight for a heavy car than for a light car. For example, on level track the resistance in pounds per ton of an 80-ton freight car is less than half that of a 20-ton car. In other words, the force required to keep two 20-ton cars moving at a given speed would be more than enough to move one 80-ton car at the same speed. On grades, of course, this ratio changes, since the grade resistance per ton is the same for all weights of car and if the grade is appreciable, the grade resistance is a large percentage of the total. For example, using the 20-ton and 80-ton cars again, on a one per cent grade the resistance per ton of the lighter car is only about 1.15 times that of the heavier. A similar difference exists between different weights of passenger cars.

With these facts before us, it was necessary to make the series of calculations outlined in the foregoing for different trains consisting of at least two different weights of cars.

From the results of these calculations it is then possible to adjust the weight of the cars in a train by means of an "adjustment factor" which takes into account the features, such as friction and windage, which are not directly proportional to total weight of the cars. This factor is constant for any route and compensates for the

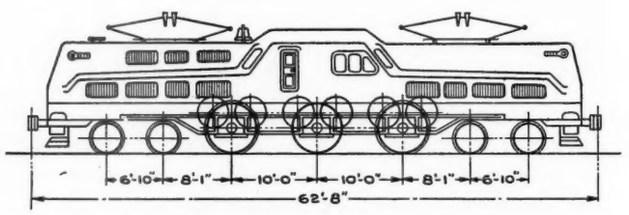


Fig. 3—General Specification, Class P5A Locomotive, 70 M. P. H. Gears (Modified Cab Design)

Total weight, lb.	394,000
Weight on drivers, lb.	229,000
Weight per driving axle, avg., lb.	76,333
Weight on each truck, lb:	
No. 1 end	77,000
No. 2 end	88,000
Starting tractive force, lb.	57,250
Maximum speed, m.p.h.	70
Continuous tractive force, lb.	28,700
Continuous speed, m.p.h.	49
Continuous horsepower	3,750

aforementioned difference in resistance between heavy and light cars. The factor is worked out to be a theoretical tonnage which is added to each car of the train. Thus, the "adjusted tonnage" of a train is always greater than the actual or flat tonnage. In steam-locomotive practice, the adjustment factor is determined by the ruling grade of the route and the speed at which it is desired to negotiate the route. For example, one of our standard steam freight locomotives has a rating of 5,560 adjusted tons over a given route with an adjustment factor of 10, based on a speed of 15 m. p. h. over the ruling grade. This means that the locomotive can handle about 62 cars of 80 tons each, or 4,960 "flat" actual tons, or about 111 cars of 40 tons each or 4,440 flat tons, at 15 m. p. h. over the ruling grade.

Inasmuch as the weights of the freight cars cover a wide range, it is not practicable to cover the freight ratings without stating the ratings in "adjusted tons" as has been done in the past for steam freight locomotive ratings. In the case of electric locomotives in freight service, the adjustment factor is not as simply determined as with steam locomotives. With different trains maximum temperature may be reached at different points in the run and consequently the entire route must be considered rather than the ruling grade alone. Thus, the tonnage which an electric locomotive could handle within permissible limits was determined for each route and for

different weights of cars. If over a given route it was found that a locomotive could handle either 50 eighty-ton cars weighing 4,000 tons or 125 twenty-ton cars weighing 2,500 tons with the same over-all heating effects on the motors, the adjustment factor is readily determined as 20 and the rating becomes 5,000 adjusted tons.

Actually, after studying all the routes it was found that for electric freight service an adjustment factor of 20 was suitable for universal use. The steam service in the same area had used values of 5, 7, and 10 for different runs.

In the passenger service the use of adjusted tonnage is not necessary, inasmuch as car weights do not vary as widely as in freight service and the locomotive ratings are, therefore, specified in terms of flat tons and cars. For instance, over the route between New York and Washington it was found that with no special restrictions on the operation of the engine, a maximum of 1,445 tons could be handled by the GG-1 locomotive, but that even though the cars weighed less than about 70 tons each, not more than 20 cars could be handled on the faster schedules without overheating the equipment. However, by limiting the voltage which the engineman can apply to the motors, which can be done by restricting the operation to the sixteenth or eighteenth notch on the master controller, both the tonnage and the car limit could be raised, although at some loss in schedule speed. The complete ratings of the GG-1 locomotive in passenger service over the principal routes worked out as follows:

	No notching restrictions		18th notch		16th notch	
	Max. tons	Max. cars	Max. tons	Max. cars	Max. tons	Max. cars
N. Y.-Washington	1,445	20	1,750	27	2,500	30
Phila.-Harrisburg	1,330	20	1,600	27	2,000	30

In the operation of electric locomotives, advantage is taken of the ability to use locomotives with proper gear

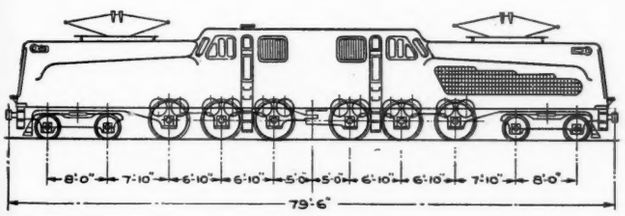


Fig. 4—General Specification, Class GG-1 Locomotive, 100 M. P. H. Gears

Total weight, lb.	477,000
Weight on drivers, lb.	303,000
Weight per driving axle, avg., lb.	50,500
Weight on each truck, lb.	87,000
Starting tractive force, lb.	72,800
Maximum speed, m.p.h.	100
Continuous tractive force, lb.	17,300
Continuous speed, m.p.h.	100
Continuous horsepower	4,620

ratios and suitable permissible operating speeds interchangeably between the freight service and the passenger service. This results in the maximum utilization of the locomotives and permits a maximum of both freight and passenger traffic to be handled with a minimum number of electric locomotives. This is particularly true since the periods of abnormally heavy passenger traffic—before and after holidays, special events, such as the Army-Navy football game, Inauguration Day—are not days when maximum freight traffic is also handled.

Should traffic conditions warrant, it is a relatively simple matter to change the gearing on the electric locomotives to provide greater tonnage capacity in freight service. For example, the P5a locomotives were originally geared for a maximum speed of 90 m. p. h. and when

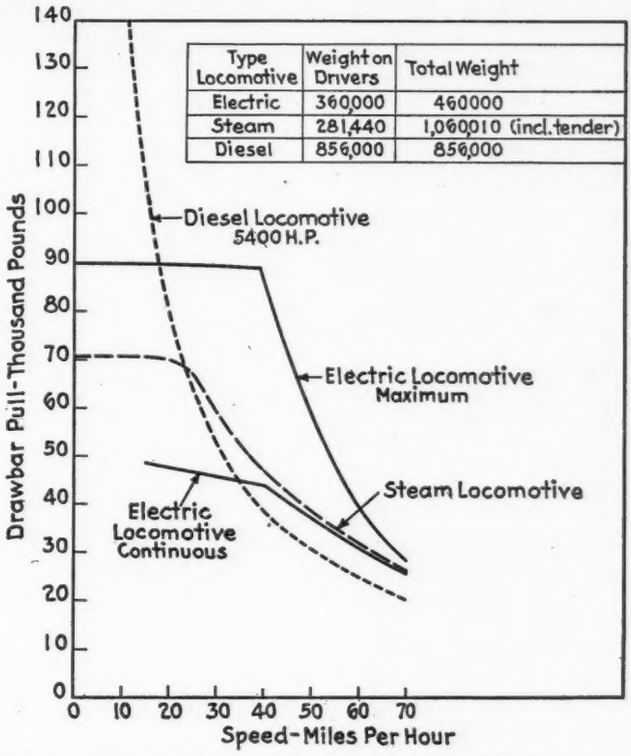

Type Locomotive | Weight on Drivers | Total Weight
Electric | 360,000 | 460000
Steam | 281,440 | 1,060,010 (incl. tender)
Diesel | 856,000 | 856,000
Diesel Locomotive 5400 H.P.
Electric Locomotive Maximum
Steam Locomotive
Electric Locomotive Continuous
Drawbar Pull-Thousand Pounds
Speed-Miles Per Hour
0 10 20 30 40 50 60 70
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

Fig. 5—Comparative Drawbar-Pull-Speed Curves of Steam, Diesel and Electric Locomotives on Level Track

they were definitely assigned to freight service the gears were changed to a maximum speed of 70 m. p. h., thereby increasing their tonnage capacity on an average of 25 per cent with a maximum of 40 per cent on one route. A similar increase in the capacity of GG-1 locomotives could be readily secured should the proportion of the traffic change in such a manner as to warrant definite assignment of additional locomotives in freight service.

Availability of Electric Locomotives

An outstanding characteristic of the electric-locomotive operation has been the ability to obtain a high availability factor. In addition to their inherent reliability, the comparatively short time required for regular inspection is largely responsible for this result. The required daily inspections are being performed within a period of less than one hour. Few special facilities are required and these daily inspections are scheduled largely while the locomotives are at terminals awaiting trains for return movement; therefore, inspection does not appreciably affect the locomotive availability.

The regular monthly inspection on road locomotives is performed at two locations, Enola, near Harrisburg, and Wilmington, Del. This inspection requires from eight to sixteen hours per unit each month. Heavy inspections and repairs are performed on the basis of total locomotive mileage. As a result of operating experience it has been possible gradually to increase the mileage operated between heavy repairs, and the final limit has not yet been reached. On the basis of present mileage it is equivalent to approximately three-year intervals on passenger electric locomotives and five years on electric freight locomotives. The locomotive is out of service for this work for approximately two weeks. Mechanical failures on electric locomotives have been kept to a minimum by such design features as the combining of a number of parts into one wherever possible, by the

use of antifriction bearings in place of friction bearings, and by the fact that no reciprocating parts are necessary.

Because of the ability to operate the locomotives on the basis of "first in—first out" at each of the terminal points, the most efficient use of the total number of locomotives is obtained. This efficiency is further increased by the ability to move locomotives between terminal points by double- or triple-heading them to points where temporary shortage of locomotives occur, making use of the multiple operation in their control, operating one, two, or more units as one locomotive. This becomes particularly advantageous when heavy movements occur in one direction.

Typical of the improvement brought about by the operation of electric locomotives in passenger service is the schedule of the "Congressional Limited" running between New York and Washington, a distance of 226 miles, in 3 hours and 35 minutes, as compared with 4 hours and 15 minutes under steam operation with shorter length of train.

In the freight service the running time has been improved an average of two hours between the New Jersey terminals and Enola yards to the west, and in the north-south service one to two hours have been cut from the running time, depending on weight of train and type of service. This has permitted faster freight schedules and enabled more consistent meeting of schedule time.

The application of electric traction to the eastern territory of the Pennsylvania Railroad, described in this paper, was made attractive by the fact that the traffic density in this territory is great enough to warrant the expenditure required to provide the facilities for the distribution of electric power to moving trains, thus securing the high economy in power generation and motive-power units permissible with central generation of power. It has produced a faster, better, and more reliable service with fewer locomotive units and greater economy than is possible with the steam service which it replaced, and has thus placed a more reliable, cleaner, and faster service at the command of the railroad and the traveling public.

Discussion

T. V. Buckwalter, vice-president in charge of engineering, Timken Roller Bearing Company, in commenting on the merits of the Pennsylvania electrification, said, "It exemplifies the outstanding difference in achievement as between private and public ownership. This job was done without cost to the public and not only will not cost the public anything to maintain, but will carry its portion of the burden of taxation in the public interests. In distinction, a large scale public ownership project not only costs colossal sums which must be raised by taxation but which forever afterwards acts as a drag on the return of prosperity to the extent of its continuous requirement of public support, raised by taxation, for its operation and maintenance.

"The data submitted on the comparison of the three forms of railroad prime movers; namely, steam, electric and Diesel, are particularly interesting," said Mr. Buckwalter. "Some additional data available from the railroad magazines indicate the cost of these to be:

Steam locomotive	$32.00 per hp.
Electric locomotive	54.00 per hp.
(Not including transmission investment)	
Diesel	87.50 per hp.

"The greatly reduced weight of the electric locomotive as compared with the steam or the Diesel, together with its tremendous overload capacity for short periods gives the electric locomotive certain advantages in heavy traffic and over rolling country, and most of the American country is either rolling or mountainous."

Lawford H. Fry, railway engineer, Edgewater Steel Company, emphasized the relation of traffic density to electrification. He said that the electric locomotive "can flourish only in rich territory fed by dense traffic. Under such conditions it puts on a performance that cannot be matched by steam or Diesel power."

R. Tom Sawyer, sales engineer, American Locomotive Company, questioned the correctness of referring to a Diesel-electric locomotive as a 5,400-hp. unit when its engine horsepower was actually something more than 6,000. He also said that even though Mr. Griffith's 5,400-hp. curve is correct it leaves a question as to why the 5,400-hp. Diesel has been designed for handling heavy tonnage over mountain grades and there are no mountain grades, on the electrified section of the Pennsylvania

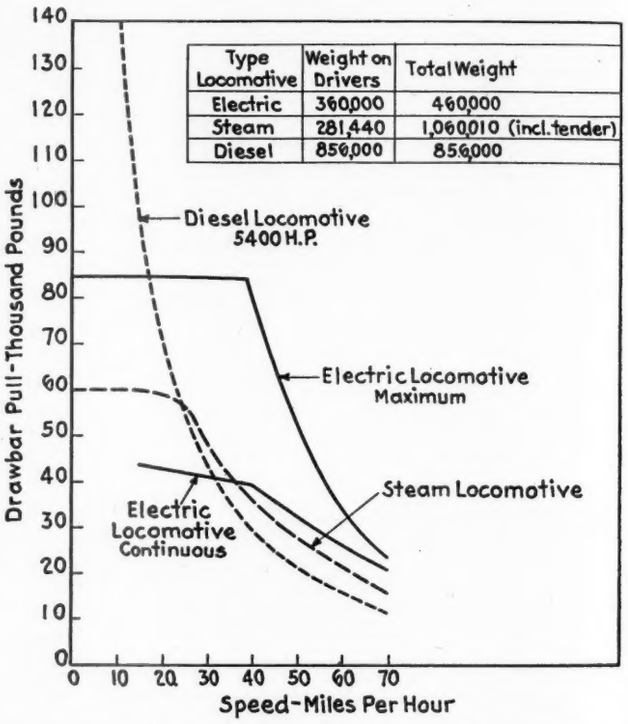

Type Locomotive
Weight on Drivers
Total Weight
Electric 360,000 460,000
Steam 281,440 1,060,010 (incl. tender)
Diesel 850,000 850,000
Diesel Locomotive 5400 H.P.
Electric Locomotive Maximum
Steam Locomotive
Electric Locomotive Continuous
Drawbar Pull-Thousand Pounds
Speed-Miles Per Hour
0 10 20 30 40 50 60 70
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

Fig. 6—Comparative Drawbar-Pull-Speed Curves of Steam, Diesel and Electric Locomotives on One Per Cent Grade

Railroad. If, he said, a speed limit of 70 m. p. h. is to be considered, why not use the standard 6,000-hp. passenger Diesel locomotive and reduce its gearing to have a speed limit of 70 m. p. h. instead of the usual 120 m. p. h. This would require three Diesel units instead of four, and also give additional power with ample traction motor capacity for fast freights.

Concerning operating costs, Mr. Sawyer said, "Startling results have been found by the Alco-G. E. survey department which has obtained operating costs on practically all Alco Diesel switchers. There is an average maintenance cost of only 29 cents per hour on all 1,000-hp. Alco units. This is from the time they entered service to January 1, 1941. As the oldest group of locomotives is four years old, I determined the average maintenance cost of all Alco 660-hp. locomotives also ranging from 1, 2, 3 and 4 years. This figure was 28 cents per hour. We can, therefore, definitely say that by increasing the horsepower from 660 to 1,000 by adding a turbo-charger and other necessary equipment the overall maintenance will be practically the same on the Alco units. In short,

we have actually realized this ideal condition. This same similarity has already been proved in road service too.

"There is no question the steam locomotive has its place but when Alco can increase the Diesel horsepower and keep the maintenance practically level it is a good indication that the Diesel will continue to replace the steam on many, many more installations."

R. P. Johnson, chief engineer, Baldwin Locomotive Works, said, "Mr. Griffith's paper describing the reasoning behind the choice of electric motive power for the eastern territory of the Pennsylvania Railroad is clear and reasonable. It is pertinent today when Diesel-electric road power is being hailed as sounding the death knell of steam power. Thirty years ago the same was being said of electric power and it should be noted that the greatest advantage of the Diesel over steam, i. e., availability, is similarly the advantage of the straight electric locomotive over the Diesel. Mr. Griffith states that the daily inspection of the electric is performed in less than an hour, the monthly inspection in 8 to 16 hours, and general overhauls at from 3 to 5 year intervals. The Diesel cannot match this.

"Furthermore, the main disadvantage of Diesel power versus steam, is its high first cost. Electric motive power, with its attendant requirements, costs still more than the Diesel, hence Diesel power stands midway between steam and electric power. Generalizations concerning motive power are misleading and every situation should be studied as a separate problem."

I. C. C. Approves Wabash Securities

WASHINGTON, D. C.

DIVISION 4 of the Interstate Commerce Commission, with Commissioner Mahaffie dissenting, has approved the issuance of securities in connection with a plan of reorganization for the Wabash, which has been in receivership since December 1, 1931. At the same time a unanimous Division 4 has also authorized the Pennsylvania to acquire control of the reorganized Wabash, a transaction, which, in the opinion of Division 4, "is an important feature of the plan of reorganization of the properties of the Wabash, and without its accomplishment the plan may fail." In another accompanying decision Division 4 also permitted the Reconstruction Finance Corporation to compromise its claim against the Wabash by exchanging receivers' certificates for new securities.

Plan Pares Down Capital Structure

The proposed plan of reorganization which would be effective as of January 1, 1941, would reduce the capital structure from $330,759,265 to $192,647,795, and pare down the total fixed charges from $7,391,362 to $2,558,418.

Under the proposed plan the new capital structure and annual charges as of January 1, 1941, would be as follows, with no par common stock stated at $100 a share:

	Principal amount	Annual requirements
Undisturbed securities:		
Equipment trust certificates, series H	$8,540,000	$213,500
Wabash-St. Charles Bridge Company first-mortgage 4-per cent serial bonds	2,025,000	81,000
Wabash-Hannibal Bridge Company 3½-per cent serial bonds	50,000	1,750
New securities:		
30-year first mortgage bonds	$47,354,241	$1,894,170
Serial collateral 1½-per cent notes	4,533,206	67,998
Total fixed interest debt	$62,502,447	$2,258,418
Rents		300,000
Total fixed charges		2,558,418
Capital fund		1,000,000
40-year general-mortgage income bonds, series A	17,510,012	700,401
50-year general-mortgage income bonds, series B	21,710,059	922,677
Sinking fund		196,100
Total debt	$101,722,518	$5,377,596
Preferred stock	31,106,677	1,399,800
Total debt and preferred stock	$132,829,195	$6,777,396
Common stock	59,818,600	
Total capitalization	$192,647,795	

All the new securities will be allocated to the bondholders of the Wabash and the holders of receivers' certificates, except 19,970 shares of no par common stock to be used in the payment of unsecured claims. This common stock, together with that to be allocated to refunding and general mortgage bondholders, is to be placed in escrow pursuant to a proposed escrow agreement, from which it may be withdrawn by the owner at his option, or, if he so desires, he may leave it, to be sold at $12.75 a share, of which he will receive $11.75, and $1 is to be applied to reorganization expenses.

The stockholders of the Wabash will not participate in the distribution of the new securities, but will have the privilege of purchasing, in the order of their priorities, any of the no par stock not withdrawn from escrow.

Pennsylvania to Purchase Stock

Under the plan approved by Division 4, the Pennsylvania, which previously controlled the Wabash, will purchase all the common stock of the new company, or such amount as may be available for purchase under the terms of the escrow agreement, provided that 454,627 shares, constituting 50 per cent of all the capital stock both common and preferred are so available. However, it is pointed out that large holders of refunding and general mortgage bonds, to whom the stock will go, have signified their intention of selling their stock to the Pennsylvania.

In order to meet the objections of the New York Central to the Pennsylvania's acquisition of the Wabash, the Pennsylvania has agreed to and Division 4 has ordered it to trustee all of its Lehigh Valley and New York, New Haven & Hartford stock. The order also provides that the Pennsylvania will also require the Wabash to trustee all of its holdings in the Lehigh Valley to a trustee approved by the commission.

Treatment of R. F. C.

Under the proposed plan of reorganization the R. F. C. would receive cash for accrued interest, and for the $16,394,583 of receivers' certificates held it would receive $10,580,312 in new first mortgage four per cent bonds; $3,526,771 in new four per cent general mortgage income bonds, and $2,287,500 in serial 1½ per cent collateral notes.

Commissioner Mahaffie, in his dissenting opinion in the securities case, said that the debt structure of $101,722,518 "is very high in its relation to both tangible assets and to past earning power." He also felt that the majority was making a serious mistake in permitting the company to issue bonds without a provision for a sinking fund, declaring that "in this proceeding no 'good and sufficient reason' appears" nor is there any suggested in the majority report "for this departure from our announced policy" (of requiring sinking funds for bond issues).

Is Wage Boost in Interest of Employees?*

By F. J. Gavin

LAST year the Great Northern Railway paid its employees a little short of 40 million dollars. If the demands of the brotherhoods had been in effect last year, our payroll would have been about 15 million dollars more than it was. That is, about 5 million dollars more than our total net income for the year! And many of the railroads did not do nearly so well as we did last year. . . .

I do not feel that railway labor, here in the West, is now underpaid—even in view of the recent increases in the cost of living. The average level of their wages is substantially above the 1929 level, when living costs were materially higher than they are now.

Unfortunately, the real wages paid railway employees are obscured by so many complications that the subject does not lend itself to any simple explanation. For instance, employees who are engaged in the actual operation of trains, such as engineers, firemen, conductors and brakemen, are paid on a dual basis,—whichever is the more favorable to them. A day's work consists either of eight hours of service; or, in freight train service, the operation of the train for 100 miles; and in passenger train service, the operation of the train for 100 miles, in the case of engine crews, and for 150 miles in the case of train crews. These rules, of course, are carry-overs from the days when trains were not operated nearly so speedily as today.

Despite the relatively high earnings—for hours actually worked—of engine crews and train crews, the average annual earnings of these employees do not appear exorbitant because the amount they earn in a given period is subject to certain limitations which were proposed by the brotherhoods themselves.

Figures Which Conceal the Facts

Another condition in the railway industry is used by the brotherhoods to produce a much lower figure as the average annual wage, than is an actual fact. That is the large amount of temporary and seasonable employment. Emergencies such as floods, heavy snows, special office work, as well as peak traffic movements, section work in the summertime, etc., provide considerable temporary employment for a substantial number of transient laborers and unemployed persons, ranging from a few hours to a few weeks.

The brotherhoods regard these temporary workers as "railroad employees." By counting them as such, an average annual wage for railroad employees is arrived at which is substantially less than the average annual wage actually paid to those employees who look to the railroad industry for their livelihood. Even with the earnings of employees in train service restricted, as they are, by regulations initiated by the brotherhoods, the average annual earnings of Great Northern employees last year—I mean those who actually look to our railroad for their livelihood—were about two thousand dollars.

I am sure that almost everyone who has an acquaintance, or a neighbor, who is employed by a railroad, will agree that in the matter of living standards which his compensation enables him and his family to maintain, in the hours he works, the conditions under which he works, in social advantages such as provisions for pensions, death benefits, unemployment insurance and security of employment, the railway employee is more likely to be envied than otherwise.

For my part, I should like to have this remain so. I have been through the ranks myself. I know a great many of these men and women who work for the Great Northern Railway. They are fine people,—efficient, conscientious, loyal—and they and their families are a credit to every community in which they live. I want to see them well paid. I want to see them able to maintain good American standards of living.

Can a Broken and High-Cost Industry Provide Secure Jobs?

I can appreciate their desire to improve still further their standards of living—but that, I submit, should depend upon the ability of the railway industry to do more for them than it has already. They—the men and women employed in this industry—should co-operate with the industry to the end that its earnings ability be sustained, and, if possible, increased. They should not set out on a course which, while not deliberately so designed, in effect at least, proposes the confiscation of all of the earnings of our industry for the benefit of its employees.

The railway brotherhoods should join with railway managements in common recognition of the fact that we must produce railway transportation cheaply enough to be able to sell our services in competition with other kinds of transportation which have developed into formidable competitors during the last twenty years. For this we must do, unless the railways are to become a ward of the government,—unless we are willing to bring to a close another chapter in that system of individual initiative and free enterprise which, despite the shortcomings incident to any human enterprise, has raised the level of living standards of the people of the United States to a plane substantially higher than that enjoyed by any other people in the whole history of the world.

It is unfortunate too that taxing bodies, regulatory bodies, legislatures and our national Congress choose, too often, to ignore this basic proposition. And when the present emergency has passed, we must anticipate even more serious competition from these newer forms of transportation. Our problem is made tremendously more difficult by the fact that, as a nation, we have assented, for the time being at least, to a new policy with respect to transportation. That policy is to lower the selling price of transportation by shifting a substantial portion of the cost to the taxpayer in the case of newer forms of transportation; and by relieving them of comparable taxation and other responsibilities and obligations which have been imposed on railroad transportation. . . .

Here is an American institution—the railroads. They perform a necessary transportation service day in and day out. They do it efficiently. They emerge from a long period of depression, from a long period of political baiting, from an era in which they have had to contend with subsidized and otherwise favored competition and they rise to serve the nation magnificently in its hour of need.

They have failed no one—except their owners. The only breakdown in this great industry has been the breakdown in the value of ownership, and that strikes directly at the heart of our American way of life—unless you choose to delude yourself with the idea that these powerful forces of selfishness, operating from within, will stop just short of your own door.

Within the framework of the law of the land, the equities of the owners of the railroads, in some instances,

* This article is an abstract of an address by the President of the Great Northern before the recent Fargo meeting of the N. W. Shippers' Advisory Board, which was reported briefly in last week's *Railway Age*.

have been confiscated outright; in others they are about to be confiscated; in a great many more instances—what amounts to the same thing—the earning capacity of their investment has been wiped out, or faces the threat of extinction.

We Criticize Europe's Politics—But What About Our Own?

We are appalled at the ruthless march of the exponents of state capitalism across the map of Europe. We are concerned lest it leap the protecting expanses of the Atlantic and Pacific to the shores of the New World. We are appalled at the confiscation of homes and industries in Poland, Holland, Norway, and other countries.

May I remind you that there is scant difference to the person who has been despoiled,—whether it be by the armies of a Hitler,—or by procedures operating within the structure of a great democracy dedicated to freedom and justice. One, to be sure, leaves broken bodies in its wake; but both leave shattered hopes and shattered faith.

Steel Shortage Still Retards Car Building

BUILDERS of railway freight cars should have no dispute with statements made by officers of the Office of Production Management to trade associations last week in Washington that materials of most importance to the national defense program are becoming scarcer and that grave days are ahead, for the A-3 priority ratings recently applied to freight car materials have not been effective up to the present in preventing recurring shut-downs of car plants for lack of steel. According to the information received by the American Car Institute on July 30, the Butler, Pa., plant of the Pullman-Standard Car Manufacturing Company, with a capacity of 1,200 cars per month, was completely shut down on July 25, awaiting steel for 250 box cars which were scheduled for delivery to the Baltimore & Ohio on June 30. This schedule has been set back from week to week and is now scheduled to start August 11, if the steel is forthcoming, following which work will be started on 800 box cars for the Erie. Most of the other material for the cars has been on hand some time.

At Sharon, Pa., a plant of the General American Transportation Corporation, with a capacity of 300 tank cars per month, delivered only 43 cars in June and has been working only 10 to 25 per cent of capacity because of the scarcity of steel.

The Columbus, Ohio, plant of the Ralston Steel Car Company, with a capacity of 500 cars per month, delivered only 168 cars in June and has been shut down from time to time since then, and is now operating at about 25 per cent of capacity because of the delays in obtaining its requirements of steel.

During July, the Greenville, Pa., plant of the Greenville Steel Car Company, with a capacity of 300 cars per month, produced only 25 cars, which included flat cars for the Navy, and the plant is soon facing a complete shut down because of lack of steel.

At McKees Rocks, Pa., the plant of the Pressed Steel Car Company, with a capacity of 1,350 cars per month, is now at work on 1,000 cars for the New York, New Haven & Hartford, after a shut down of 10 days, but these cars will have to remain on tracks in a semi-finished condition until some of the materials are received, and unless these materials are obtained quickly the plant will be faced with a shut down within two weeks. This shut down will correspondingly postpone work on 800 cars for the Grand Trunk Western and the Southern Pacific.

The American Car & Foundry Co. has also reported a slowing down of operations because of the scarcity of steel. The Huntington, W. Va., plant of this company, with a capacity of 550 cars a month, had been closed 10 days up to July 30, awaiting steel for 900 hopper cars for the Chesapeake & Ohio and the Wheeling & Lake Erie, and the steel had not been received at the time of the report. This plant, it was explained, turned out only 500 cars since the middle of March, and has been closed down except for about 30 days because of the steel situation. Another plant of this company at Berwick, Pa., with a capacity of 1,225 cars a month, produced only 73 cars in June while, on July 30, one of two tracks was entirely out of production and the other was working at 20 per cent of its capacity. Still another plant of the same company, located at Milton, Pa., with a capacity of 525 tank cars a month, delivered only 73 cars in June and is presently restricted to 20 per cent operation because of the steel situation.

Reports from plants in the west were more favorable than from those in the Pittsburgh area, which has been the hardest hit by lack of steel; but the western companies have also been forced by the scarcity of steel to work on reduced schedules and operations as a whole are not more than 50 to 60 per cent of capacity.

According to present estimates of the car builders, from 10,000 to 12,000 fewer freight cars were produced up to July 30 than would have been produced with ample steel. It was frankly reported that the steel situation appears to be more serious now than at any other time and that, unless conditions improve, a serious shut down of practically all car plants may occur within the next 30 to 45 days.

Railroads Survey Non-Ferrous Needs

OVER 180,000 tons of non-ferrous metals and ferrous alloys (other than steel alloys) will be required during 1941 for railway material and equipment, according to figures which the Association of American Railroads has obtained from Class I railroads and manufacturers for the Priorities division of the Office of Production Management. The information was assembled by the A. A. R. to assist the government in meeting the problems growing out of the scarcity of non-ferrous metals and to protect railway operations as far as possible from shortages, and gives the month-to-month requirements of each metal from May to December, inclusive. These data, which reveal hitherto unknown facts about the consumption of non-ferrous materials by railroads, supplement estimates of the iron and steel requirements of the railroads, as reported in the *Railway Age* of May 10, and will be followed by information now being gathered as to the requirements of steel alloys.

Total requirements for the last eight months of the year are placed at 241,032,216 lb., and consist of 13,515,206 lb. of non-ferrous rolled-drawn or processed metals for delivery to Class I railroads between May and December, 13,174,210 lb. of non-ferrous metals for use in manufacturing in railroad-owned shops, 156,072,400 lb. of non-ferrous metals required by commercial manufacturers to meet railroad needs, 34,180,000 lb. of ferrous

alloys and 24,090,400 lb. of non-ferrous alloys, excluding alloys with steel. The indicated requirements are about equally distributed over the eight months' period, from which it has been estimated that the combined requirements for the twelve months of 1941 for the use of the Class I and other railroads in the United States will exceed 180,000 tons.

Non-Ferrous Metals Required By Manufacturers and Class I Railroads for Railway Use Last Eight Months of 1941

Metals	For Delivery to Railroads (Pounds)	For Manufacturing in Railroad Shops (Pounds)	For Railway Material in Commercial Shops (Pounds)	Combined Requirements (Pounds)
Aluminum	124,027[2]	38,712	964,000	1,126,739
Antimony	.....	364,083	1,812,800	2,176,883
Babbitt	2,989,391	.....	.....	2,989,391
Brass	1,941,509[3]	.....	.....	1,941,509
Cadmium	.....	350	64,800	65,150
Chromium	.....	9,267	108,000	117,267
Cobalt	.....	.....	2,400	2,400
Copper	7,017,937[4]	1,875,733[9]	98,000,000	106,893,670
Lead	139,763[5]	4,852,443[9]	37,736,000	42,728,206
Magnesium	.....	88	.....	88
Manganese	.....	571,746	5,570,000	6,141,746
Mercury	.....	729	76,800	77,529
Molybdenum	.....	.....	20,000	20,000
Monel Metal	99,473[6]	.....	.....	99,473
Nickel	.....	158,798	1,218,000	1,376,798
Phosphor bronze	.....	3,141,569	.....	3,141,569
Phosphor copper	.....	302,056	.....	302,056
Spelter	.....	36,150	.....	36,150
Solder	335,931	.....	.....	335,931
Stainless steel	571,071[7]	.....	.....	571,071
Tin	238,632	1,708,378	4,476,800	6,423,810
Titanium	.....	.....	52,800	52,800
Vanadium	.....	200	66,000	66,200
Zinc	57,472[8]	113,908[10]	5,904,000	6,075,380
Non-ferrous metals	13,515,206	13,174,210	156,072,400	182,761,816
Ferrous alloys[1]	.....	.....	34,180,000	34,180,000
Non-ferrous alloys	.....	.....	24,090,400	24,090,400
Grand Totals[1]	13,515,206	13,174,210	214,342,800	241,032,216

[1] Excluding steel alloys. [2] Sheets, rods, bars, and shapes. [3] Sheets, rods, bars, tubing, wire, and screen. [4] Sheets, rods, bars, tubing, bare wire, and ferrules, excluding insulated wire. [5] Pipe and sheet. [6] Sheets and bars. [7] Plates, shapes, bars, and sheets. [8] Sheet. [9] Pig. [10] Slate.

Copper Needs Largest

The survey brings out that by far the largest need of the railroads is for copper, requirements for the last eight months of 1941 totaling 106,893,670 lb., of which 98,000,000 lb. is required by commercial manufacturers for making railway materials. Next in size are the requirements of lead, which total 42,728,206 lb., of which 37,736,000 lb. will be purchased by manufacturers of railway materials. The total for the eight months' period also include 6,423,810 lb. of tin, 6,141,746 lb. of manganese, 6,075,380 lb. of zinc, and 3,141,569 lb. of bronze. The railroads will also require 1,126,739 lb. of aluminum, 2,989,391 lb. of babbitt, 1,941,509 lb. of brass, 1,376,798 lb. of nickel, and 571,071 lb. of stainless steel, according to the figures.

The seriousness of the shortages of these materials to the railroads, it has been pointed out, is indicated not alone by the considerable volume consumed by the railroads, but becomes more apparent when it is considered that these metals are used extensively in cars and locomotives and car and locomotive appliances, and are essential to the safety and continuity of their operation. While the non-ferrous metals required for repairing and constructing freight cars and locomotives are now entitled to an A-3 priority rating, the difficulty of getting the benefit of the rating is increased by the mandatory control which is being exercised by the government over the production and distribution of non-ferrous metals and by the demands for the metals for armament and lend-lease programs which leave little or nothing for the remaining consumers of these metals when the higher ratings granted the military services are exercised.

Examiner Would Slash F. E. C. Capitalization

WASHINGTON, D. C.

THE capitalization of the Florida East Coast will be reduced from $95,616,000 to $37,000,000 if Division 4 of the Interstate Commerce Commission approves a recommended plan of reorganization for this company under section 77 of the Bankruptcy Act which has been drafted by Examiner Ralph H. Jewell. Under the proposed plan, which would become effective January 1, 1942, the fixed interest charges would be cut from $2,823,480 to $483,480, which will be increased to $513,480 by reason of an increased interest rate on fixed-interest bearing bonds provided income available for fixed charges shall equal or exceed $1,250,000 a year for any two consecutive years after consummation of the plan.

Following the now-well-established treatment of equity holders in most of the other major reorganization cases, Examiner Jewell would have Division 4 find that the equities of the holders of the common stock and of general unsecured claims not entitled to priority have no value and should be accorded no participation in the allocation of new securities.

New Capitalization Is $37,000,000

Examiner Jewell recommends for the F. E. C. the following new capitalization and annual charges:

Issue	Amount	Annual Requirements
Equipment notes	$1,116,000	$33,480—Int. 124,000—Maturity
First mort. series-A bonds	12,000,000	450,000—Int.[1] 220,000—Cap. Fund[2] 60,000—Sink. Fund[3]
General-mort. series-A bonds	4,500,000	202,500—Int. Cont. 22,500—Sink. Fund
Common stock (no par) 495,000 shares	19,384,000	
Total capitalization	37,000,000	1,112,480

[1] Annual interest on first mortgage bonds will be increased $30,000 annually if income available for fixed charges equals or exceeds $1,250,000 per annum for any two consecutive years after consummation of the plan.
[2] Annual mandatory (if earned) capital fund payments will equal two per cent of total railway operating revenues for the first 10 years after the effective date of the plan and thereafter one per cent will be mandatory (if earned) and one per cent discretionary with the board of directors.
[3] Annual sinking fund payments on first mortgage bonds, series-A, will equal one-half of one per cent of bonds outstanding but payments will not commence until 10 years after their date of issue.

Treatment of First and Refunding Bonds

Under the provisions of the proposed plan the claims of holders of present first and refunding mortgage bonds, totaling $45,000,000 of principal and $24,375,000 of interest which will be accrued and unpaid as of January 1, 1942, cannot be satisfied in full within the capitalization recommended, but these holders will receive all the new income bonds and new stock recommended to be issued in the reorganization, constituting the entire equity remaining in the property after satisfaction of the claims of the present first mortgage bondholders.

Holders of present first mortgage bonds would get for each $1,000 of bonds held, $1,000 of new first mortgage 3¾ (4) per cent bonds and cash equal to accrued and unpaid interest to January 1, 1942. Holders of the present first and refunding mortgage bonds would receive for each $1,000 of bonds held and all accrued and unpaid interest thereon to January 1, 1942, $100 of new general mortgage-income 4½ per cent bonds and 11 shares of new no-par common stock. All equipment trust certificates outstanding would be assumed by the reorganized company.

The recommended plan also provides that there should

be three reorganization managers, one to be designated by the institutional group, one by the five-per cent committee, and one by the court. The reorganization managers, would have general supervision of the carrying out of the plan.

An accompanying notice to parties of record states that exceptions to the proposed report must be filed in Washington, D. C., and served so as to reach other counsel of record on September 22; while replies to exceptions may be filed and served by October 2. The case is assigned for oral argument before Division 4 in Washington, D. C., on October 24.

Brotherhoods to Take Strike Vote

Railroads say no to pay increase demand—Labor and management differ on accounting, productivity of employees and wages

A STRIKE vote on several issues will be taken by the 19 brotherhoods, following the refusal of the railroads on August 5, to grant their demands for pay increases. The ballot to be submitted to members of the five operating brotherhoods will contain two issues: The railroad's rejection of the employees wage increase demand and the proposal of the railroads to change working rules. That to be submitted to the members of the 14 non-operating brotherhoods will contain four issues: The carrier's rejection of their demand for higher wages; the railroad's proposal to change working rules; the carrier's refusal to give vacations with pay; and the western railroad's counter proposal to reduce wages 10 per cent. Chiefs of the 19 brotherhoods announced on August 5, that results of the vote would be known within two or three weeks.

Although the brotherhoods decided to take a strike vote rather than to invoke the services of the National Mediation Board, the action does not preclude mediation for, under the Railway Labor Act, the board can proffer its services, the railroads can invoke the board's aid and the brotherhoods can still settle the controversies in negotiation or mediation. The act provides that if controversies are not settled by the mediation board or through arbitration, the President may appoint an emergency board to investigate the facts and report to him within 30 days.

Decision to take a strike vote was made on August 5, within two hours after the railroads rejected the demands of employees for wage increases. Negotiation of the demand of the 5 operating unions for an increase in pay of 30 per cent was begun on July 30 and negotiation of the demand of the 14 non-operating unions for a minimum wage of 70 cents per hour as the lowest rate to be paid in the industry and with other corresponding increases which would provide rates up to $1.15 per hour for highly-skilled workers was started on July 31.

Several Controversies Pending

At the present time, several of the controversies are before the mediation board and others are being held in abeyance. The engineers' Diesel demand and the proposal to cut wages 10 per cent, made by the western railroads on May 25, 1940 as a counterproposal to the non-operating brotherhoods demand for vacations with pay, have not progressed to mediation. The engineers' Diesel request for assistant engineers on certain types of Diesel and steam-electric locomotives was first made upon six western railroads in 1937. In 1940, the Brotherhood of Locomotive Engineers broadened its request and made new demands upon all railroads operating this type of motive power. This demand calls for horsepower rather than weight on drivers as the basis of pay and an additional engineer in the engine rooms of these locomotives. Regional negotiations were terminated on July 1, 1941, and no further steps have been taken to progress this controversy.

The demand of the non-operating employees for vacations with pay, which was served upon all railroads on May 20, 1940, is still officially before the Mediation Board, following action by the railways invoking the services of the National Mediation Board on March 7, 1941. However, according to an article which appeared in the June 24 issue of "Labor," negotiations for vacations with pay were called off this week by the chieftains of the 14 co-operating standard railroad labor organizations after they met in Washington on June 23 with representatives of the carriers."

Last week, rule changes proposed by the railroads were rejected by the brotherhoods during negotiations at Chicago and the carriers invoked the services of the National Mediation Board. The five operating brotherhoods, on July 30, refused the changes proposed on May 26 by the eastern railroads, with the exception of the Pennsylvania, and by the western railways and by the southeastern railroads on June 2. The 14 non-operating brotherhoods, on July 31, confirmed their refusal, first made on July 29, of the rule changes proposed by the western and southeastern lines on June 9, 1941.

The regional negotiations of the demand of the Brotherhood of Locomotive Firemen and Enginemen made upon practically all railroads on May 10, 1941, and calling for a new and increased basic daily wage scale and a fireman (helper) on certain types of Diesel locomotives were terminated on July 2, 1941, when the Brotherhood of Locomotive Firemen and Enginemen invoked the services of the National Mediation Board.

Viewpoints of Management and Labor Differ

Throughout the negotiations of the demands for wage increases, the viewpoint of labor has been diametrically opposite that of management. Not only has this been true in the meetings at which labor presented its demands, but in press conferences and radio broadcasts conducted coincident with the negotiations.

The operating brotherhoods base their demand for increased pay upon five points: Increased "productivity of workers," skill and responsibility of workers, wage trends

in other industries, standard and cost of living, and business improvement. The 14 non-operating brotherhoods contend that their wages have not been increased since 1937, although wages of other defense industries have; that the wages of other industries are higher than those paid by the railroads and railroad workers should be permitted to share in the general economic progress that the country as a whole is making at this time.

George Harrison, president of the Brotherhood of Railway Clerks, in explaining to the press the position of the unions, contended that the railways have "plenty of profit" with which to pay the increase demanded by the 14 non-operating unions. "Profit, as far as employees are concerned," he said, "is net railway operating income, the amount left after paying operating expenses and taxes and not net income." He estimated that the railroads would show a net operating income of $1,337,000,000 in 1941.

F. G. Gurley, chairman of the conference committee of Western Railroads and vice-president of the Atchison, Topeka & Santa Fe, disagreed with Mr. Harrison's concept of accounting on the grounds that it disregards the fact that net income and not net operating income is the profit which a railroad, under Interstate Commerce Commission rules for accounting, can show at the end of a year's operations, if it has a profit to show. A railroad, he continued, cannot show a profit until it has paid not only all of its operating expenses, including the cost of labor, but also taxes and charges on capital borrowed. Mr. Gurley also contradicted Mr. Harrison by saying that all wage demands would increase the payroll $900,000,000, an amount that is more than the railroads have earned in net income in any year in their entire history.

The productivity of employees was another subject of controversy. The operating brotherhoods took all credit for greater productivity. Their measurement was a comparison of workers with traffic. Using 1923-25 as an index of 100, they said, the total number of railroad wage earners was 56.8 in 1940, whereas the volume of traffic in 1940 was 87. Mr. Gurley refuted this argument by stating that the increased productivity of employees is the result of a number of factors, the most important of which is the investment since 1920 of more than $8,000,000,000 to improve the plant. Larger locomotives and longer trains were another factor, he said. The diversion of traffic to trucks and the reduction of branch line operations, he continued, have tended to concentrate traffic on main lines and to result in a better showing in employee productivity.

Mr. Gurley and A. F. Whitney, president of the Brotherhood of Railroad Trainmen, differed on a statement issued by the brotherhoods which contended that in 1939 an average of 1,376,266 employees were attached to the railroad industry and their average wage was $110.33 per month. Mr. Gurley contended that this figure included occasional, casual and other workers who properly should not be included in a total used to provide the basis for arriving at an average wage. When the total compensation received by employees is divided by the average mid-month count of employees, he said, the average compensation was $1,791 in 1939 and $1,821 in 1940.

Robertson and Gurley Broadcast

On August 3, the National Broadcasting Company broadcasted addresses on the negotiations made by D. B. Robertson, president of the Brotherhood of Locomotive Firemen and Enginemen and Mr. Gurley. Mr. Robertson, who spoke from Denver, Colo., said, in part:

"Our demands for increased wages involve considerably more than just getting a settlement for the sake of trying to overcome the increased cost of living already staring us in the face. Our demands are based firmly upon a few fundamental principles. One of them is the principle which was largely responsible for building the American way. We have said it before and we now restate that princple: The American way was built and sustained, and can only be sustained, by sharing rising profits in the form of wages with those who help to make the profits possible. If workers did not share in rising profits and the benefits flowing from technological improvements, there would be no advance in the standard of living. The railroads have yet to learn fully the vital importance of these ideas. In many other major industries, the principle has been met with considerably more enlightened recognition. We are fully aware that there are many executives among the managements of the railroads thoroughly conscious of the justice of the demands of railroad labor. These new leaders see and appreciate the facts but their working environment severely restricts their actions and the expression of their thoughts and ideals. Doubtless, over a period of time these new leaders will come into greater power and the situation will change materially for the better. In the meantime, however, it will remain necessary for labor to be ever vigilant and militant in enforcing its demands for improved working conditions and participation in the fruits of its own increased productivity.

"We question the right of invested capital to insist upon a full participation when we consider that labor is already inadequately paid. To permit such a thing would be to pay capital an undeserved amount at the direct expense of labor. Capital, by and large, is only worth what it can be made to earn. After paying a fair and honest price for labor and necessary expenses, capital participates in what remains. The size of the amount left is dependent upon the effectiveness and skill with which the invested capital is employed. The effectiveness of its use depends upon the skill of the management. That is what management is paid large salaries for. We do not intend to pull railway management out of the hole by foregoing wage increases so that it can cover up its own shortcomings by paying off invested capital with a portion of labor's rightful share. Labor is not interested in foregoing or donating a part of its rightful share to security holders. We maintain our attitude is one of enlightened social consciousness befitting the great advances in social and economic relationships evolving during this century. Simple social justice demands that management not be permitted to cover up or make good, in part, its managerial deficiencies, at the expense of labor."

Mr. Gurley in his talk from Chicago said, in part:

"Stockholders really are the forgotten men and women. They have been forgotten for 10 years and are entitled to some recognition. In all fairness they should now participate in the improved earnings.

"But $900,000,000 is more net income than the railroads earned in any year in their history. It is more than 20 times the average annual net income of the 10 years ended in 1940.

"If these wage and other requests, aggregating 900 million dollars, had been effective in 1940, a modest net income would have been replaced by a net deficit of about 600 million dollars. Complete statements are available for only the first five months of 1941, but had the employees' requests been effective during that period the net deficit would have been about 225 million dollars.

"In railroad accounting, the expression "net deficit" means that the railroads would have failed by that amount to have had enough money to meet their interest and other fixed obligations. Not only would this mean no payment to stockholders, but it would result in a loss to

the creditors as well. Life insurance companies and other fiduciary institutions in which you are vitally interested, hold about 50 per cent of the bonds of American railroads.

"How much is $900,000,000 in real money? We have explained somewhat briefly its significance in the railroad business. It would pay for all the coal mined in the United States in 1939. It is equivalent to the value of all flour and other grain mill-products for the latest year for which figures are available. It would pay the annual salary of 3,500,000 private soldiers. Remember—this $900,000,000 is the *requested increase,* not the total payroll.

"Railroad workers occupy a fortunate and dignified position in our society. They are the beneficiaries of a pension fund established by equal contributions from railroads and employees, and of an unemployment insurance fund which is supported entirely by contributions from the railroads. Their earnings now are higher than ever before. We take a pride with them in their position and rejoice that they are not ill-housed, ill-clothed and undernourished.

"The annual earnings of 35 million employees in other industries were reported to the Social Security Board for the year 1939, which are the latest figures available. The average annual earnings of railroad employees that year were approximately 50 per cent more than the earnings of the 35 million employees in other industries. That's something to think about. Recent increases in defense industries may produce some moderate change in these percentage figures."

Hostesses and How to Pick 'Em

CAREFUL selection and rigid training has produced for the Southern a first string group of hostesses for its new streamliners—the "Southerner" and "Tennessean." Chosen not for "glamor" but for competence in handling babies' colic, car-sickness and lonesome children traveling alone, the hostesses nevertheless present an attractive cross-section of Southern womanhood.

The six hostesses now serving passengers on the three "Southerner" trains represent five of the Southern states through which they pass on the run between New York and New Orleans, La. These young ladies reported at Washington, D. C., an entire month before the "Southerner" made its first regular run on March 31 to undergo an intensive course of training under Miss Wanda L. Myers, who holds the newly-created office of "director of hostess service" for the system.

Their backgrounds reveal interesting variety and contrast but possess one thing in common—they all have had plenty of experience in jobs dealing with people and requiring poise and patience. Let's run through them briefly in the order of appearance in the accompanying group photograph, from left to right.

Miss Kathleen Elkin hails from Decatur, Ga. The daughter of a physician, she made a career of professional dancing and taught in her own studio for five years. Later she modeled clothes; then tried the banking business in Atlanta where Miss Myers "discovered" her for the railroad business.

Miss Carolyne Sandlin comes from Old Fort, N. C. Upon graduation from Rollins College, she taught speech and dramatics at her "alma mater." There followed a short professional career on the stage during which she played opposite Fred Stone in "Lightnin'" on tour. Railroading has put her on a moving stage.

Miss Dale Warren grew up in Birmingham, Ala., in a well-to-do family. After finishing-schools at Washington, D. C., and Philadelphia, Pa., she entered the busy social life of her home town as an active Junior Leaguer. She plays a fine game of tennis.

To the right of "Boss" Miss Myers (who is fourth from the left) appears another North Carolinian—Miss Jean Ware, of King Mountain. A graduate of Carnegie Tech in Pittsburgh, Pa., she became "stage-struck" and sought to enter the New York theatre. She succeeded in working for a season in so-called "summer stock" plays in Cohasset, Mass., but decided to abandon the theatre for modeling. Miss Ware has posed for numerous national advertisements and was featured on the front cover of a recent issue of "American Magazine."

Miss Anita Tipping was "hired on" from the southern tip of the run—New Orleans—but her life was spent in a good many corners of the world. Daughter of an English father and a French mother she had made a trip around the world at four and remembers well childhood days in India. She entered New Orleans society as a debutante in 1937; then became a newspaper society reporter.

Miss Louise Engbarth, a resident of Ocean Springs, Miss., until her address became "en route between New York and New Orleans," is a graduate of the University of Alabama where she was active in extra-curricular affairs. Since graduation she has directed dramatics for civic organizations and schools in most of the 48 states. She is an enthusiastic devotee of the classical dance.

Now they're all riding the rails in blue-green gabardine uniforms and berets, members of a new but increasingly important branch of the service.

Hostesses On the Southern's "Southerner"

Miss Wanda L. Myers, recently appointed director of hostess service for the Southern, is here shown with the six members of her staff who cater to passengers' needs between New York and New Orleans, La. They are, left to right: Misses Kathleen Elkin, Carolyne Sandlin, Dale Warren, Miss Myers, Jean Ware, Anita Mary Tipping, and Louise Engbarth.

NEWS

Not Much Wheat Moving in N. W.

Bureaucrats complacent at farmers' plight with no place to put their harvest

With harvesting operations steadily moving north and now being in the vicinity of the Canadian border, and with the northwestern railways ready and able to move all the wheat offered them, these railways are now confronted with the anomalous condition that relatively little wheat is moving. This is due to the fact that spring wheat on which government loans are taken has no place to go and must be stored on the farms of Dakota, Montana, and Minnesota, according to the government. Even with farm storage facilities available to a greater extent than ever before, the problem remains acute, for the representatives of the government agencies in the Northwest have already shown a tendency to view the entire situation with unjustified calm and are still insistent that all technicalities be complied with before loans are made on farm-stored wheat. A late release from Washington indicated that the government plans the expenditure of a million dollars in the Northwest for farm grain storage facilities, but in the opinion of members of the northwest grain trade this action is too late to do much good in the present emergency.

L. M. Betts, manager, Closed Car section, Car Service division, recently issued the following summary of the current situation, as far as the railways' part in the wheat movement is concerned:

"In compliance with the 'quota order' of April 9 and SCO-43 of May 13, the number of western box cars on the principal eastern and southeastern railroads was reduced from 64,849 on April 15 to 43,180 on June 15, a drop of 21,669, or 33.4 per cent. By reason of this splendid performance in the relocation of box cars and a rigid conservation of car supply by the railroads involved, the number of plain box cars on 11 of the principal grain loading roads increased by 40,000 between May 1 and July 1.

"The grain movement to date has been handled, both in the west and in the east, in complete fulfillment of the railroads' promise to supply cars for every bushel of grain that can be unloaded promptly. Not only has the new crop been moved to date without a trace of difficulty but in addition 63 million bushels (about 40,000 carloads) of old wheat and upwards of 20 million bushels of old corn, all owned by the government, have been transferred to other storage points to make space for the accommodation of the new crop. Unfortunately, by reason of the exhaustion of public storage facilities, it has been necessary to restrict loading of grain to numerous markets, including Minneapolis and Duluth in the spring wheat territory, where the new crop is only just beginning to move. This unprecedented condition is brought about by causes with which the railroads are in no way involved and we are continuing to promise that cars will be supplied for every bushel of grain that can be unloaded promptly.

"The magnificent record made by eastern and southeastern roads in returning western box cars to home territory proves that reliance can be placed upon continued intelligent handling of the box car supply to meet sectional requirements. It is unfortunately true that, since Order 43 was cancelled, there has been a marked reduction in the return of western box cars through gateway points. Temporarily this might be expected as a reaction to the rigid control heretofore exercised, but warning must be given that the necessities of the western railroads still are urgent, and we will be obliged to insist on a continuance of a proper control of the use of western cars to insure their continued prompt return to home territory."

Kansas City Operations

The records of the operations at Kansas City are now available in greater detail, and, since this is one of the largest wheat terminals in the country, they reflect similar conditions that have occurred at other terminals, and that have caused the grain trade to request the railways to put restrictions on the wheat movement. The Kansas City terminal has a total rated storage capacity of 62,182,000 bushels, divided as follows:

	Bushels
Regular elevators	45,030,000
Attached to mills	14,515,000
All other space	2,637,000

As on May 10, the terminal had empty space of 19,895,000 bushels capacity, which was quite apparently inadequate to take care of the 1941 winter wheat crop. The railways and the representatives of the grain trade pointed this out as forcibly as possible to the slow-moving Commodity Credit Corporation. The stocks of old wheat and old corn were jamming the elevators, and finally, the C. C. C. managed to get rid of some of this. Even so, on June 21, at the beginning of the 1941 crop movement, Kansas City had empty storage space available for only 25,287,000 bushels.

Thus the terminal, at the beginning of

(*Continued on page 249*)

Hearings Close on the Ditch Scheme

They are going to include it in "omnibus" rivers bill to help its chances

Sharp denunciations of the St. Lawrence seaway and power project by representatives of the railroads and organized railroad labor featured the closing sessions of House rivers and harbors committee hearings on the project, the hearings having been concluded on August 6 as a result of a previously-agreed-to order.

At the same time President Roosevelt informed the committee, in a letter to Chairman Mansfield, Democrat of Texas, that he would not object to the idea of including the project in the 1942 omnibus rivers and harbors bill which is now in the process of preparation for committee action. Chairman Mansfield said that if such action were taken, the committee would ask that appropriations be made for only those projects which were considered to be in the interests of national defense, rather than appropriating for all the projects which the omnibus bill would authorize. It was pointed out that it might be easier to obtain an authorization for the St. Lawrence project by including it in the omnibus bill and thus bringing into play the well-known congressional institution of "log-rolling" than by trying to get it through Congress in a separate bill as is now planned.

Appearing before the committee for the railroads and railroad labor were Dr. Julius H. Parmelee, director of the Bureau of Railway conomics of the Association of American Railroads; J. M. Hood, president of the American Short Line Railroad Association; J. G. Luhrsen, executive secretary of the Railway Labor Executives Association; and John T. Corbett, national legislative representative of the Brotherhood of Locomotive Engineers.

Dr. Parmelee told the committee that by substantially reducing railroad revenues through the construction of the seaway, railroad labor, producers of coal and other materials used by the railroads, and federal, state and local governments would lose millions of dollars annually. He went on to say that if the project were completed, railroad revenues would decline at least $105,000,000 a year due to direct diversion of traffic to the waterway and to the drop in coal tonnage shipped by rail. This figure, he explained, is based on the proponents' estimate of the amount of traffic that would move over the waterway, vir-

tually all of which would be taken from the railroads, but does not include the possible loss of railroad business resulting from the greatly increased importations of iron ore, manganese and other mineral products.

"When it is recalled that these losses would not be distributed generally over all the railroads of the United States, but woud be concentrated on a comparatively small number of carriers," the witness declared, "the significance of the loss of $105,000,000 a year becomes much more important."

Dr. Parmelee also reminded the committee that the agreement before Congress for ratification does not provide for the collection of tolls. "It is proposed," he continued, "to make the waterway free to all users both domestic and foreign, thus granting a government subsidy to such users for each ton of traffic expected to move over the waterway." This public aid, he estimated, would be a dollar or more for each ton of freight carried in or out of the Great Lakes. He also denied a statement of a previous witness that there now exists a shortage of 1,000,000 freight cars, saying that no shortage exists and informing the committee that the railroads were meeting the transportation needs of the emergency.

At the conclusion of his direct testimony, Dr. Parmelee was asked by Representative Johns, Republican of Wisconsin, just how many railroads had ever gone out of business because of water competition. Dr. Parmelee did not know of any that had gone out of business, but he did think that water competition was the reason for the continued bankruptcy of the Florida East Coast.

Mr. Hood, speaking for the short lines of the country, urged the committee to take no action "which will saddle upon these United States an unnecessary economic burden for the future and will further, at the present time, interfere with the all-out effort to protect itself against the possible enemy from the outside."

Mr. Luhrsen told the committee that the project "has every element of preponderance of evil rather than good for the American people as a whole." "The project," he went on, "will concentrate and centralize and defeat the avenue of decentralization when the emergency is over. It invites danger of foreign entanglements which can be obviated if we utilize our own resources. It will harm one of the most important arms of inland national defense we have today—the railroads."

Mr. Luhrsen also said that one of the reasons why his association is opposed to the project is that it "will divert business from the rails in very substantial tonnage so that railroad employees will be deprived of thousands of positions and without a livelihood to follow in any substitute vocation."

The opposition of the Brotherhood of Locomotive Engineers to the project was expressed by Mr. Corbett, who declared that by diverting railroad traffic to the seaway, an "injustice" would be done to the nation's railroad employees. The project would do this, he explained, because many of them would be thrown out of work, and there would be a corresponding reduction in the contributions to the Railroad Retirement Fund, thereby lowering the benefits that the present railroad workers may expect when their retirement age is reached.

If the St. Lawrence project is carried out, asserted Mr. Corbett, "tolls" should be collected from those who use it, and these, he contended, should be sufficient to pay unemployment benefits to "those who may lose their jobs or whose positions may be less desirable because of the conditions created through government subsidization."

Others appearing in opposition to the project included Darold I. Greek, representing the Ohio Manufacturers Association; Ralph P. Ward, director of the industrial relations department of the Ohio Chamber of Commerce; Alvin W. Vogtle, president of the National Association of Shippers Advisory Boards; Samuel H. Williams, secretary of the joint executive transportation committee of the Philadelphia Commercial Organizations; and James A. Nesbitt, secretary-treasurer of the International Railway Association.

Testimony in favor of the project was given by Secretary of Agriculture Claude R. Wickard, N. R. Danielian, director of the St. Lawrence Survey of the Department of Commerce, and Leon Henderson, administrator of the Office of Price Administration and Civilian Supply.

Among the resolutions opposing the project which were incorporated in the record was one from the Transportation Association of America.

President Approves Pipe Line Bill

President Roosevelt has signed the Cole pipe line bill, H. R. 4816, which gives broad powers both to government agencies and to private companies to condemn private land for the construction of oil and gasoline pipe lines. Completion of congressional action on the measure was noted in the *Railway Age* of July 26, page 175.

No Mechanical Division Meeting in 1942

In view of present heavy demands on the time of mechanical department officers in performing duties on their individual roads and the probability that these demands will be intensified in the ensuing months, it has been deemed expedient to eliminate the annual meeting of the Association of American Railroads, Mechanical Division, for 1942. In place thereof, there will be a meeting of the general committee and the chairmen of standing committees.

I. C. C. Authorizes Barge Lines to Merge

The Mississippi Valley Barge Line Company has been authorized by Division 4 of the Interstate Commerce Commission to acquire control of the Campbell Transportation Company through ownership of its capital stock.

The Mississippi Valley line operates on the Ohio and Mississippi Rivers and has joint rates and through routes with railroads; while the Campbell company operates as a common carrier to the head of navigation on the Alleghany, Monongahela, and Youghiogheny Rivers; between Pittsburgh & Cairo, on the Ohio River; to the head of navigation on the Big Kanawha, Little Kanawha, and Licking Rivers, and to Nashville, Tenn., on the Cumberland River, tributaries of the Ohio; and between Wood River, Ill., and New Orleans, on the Mississippi. The record in the case also indicates that the Campbell company has never participated in through routes or joint rates with the railroads.

The Mississippi Valley line will purchase all of the outstanding stock of the Campbell company for $1,750,000, obtaining these funds from a $2,000,000 bank loan.

Club Meeting

The Transportation club of the Rochester (N. Y.) Chamber of Commerce will hold its fifth annual golf tournament at the Brook-Lea Country Club on August 12. A dinner will follow at 7 p. m.

F. A. Stevenson, senior vice-president, American Car & Foundry Company, will address the Rotary Club of Staten Island, N. Y., at its regular meeting on August 12, on the subject, "Building Combat Tanks for the United States Army."

N. Y. Central Employees Study Aerial Bombardment Protection

Some 50 members of the New York Central's Engineering department are taking advantage of a series of night lectures on "Aerial Bombardment Protection" being presented each Friday night at 466 Lexington avenue, New York, by N. V. Back, assistant engineer, and R. L. Corsbie, architect, who themselves have recently completed a five-months' study of the problem at New York University. The first lecture, on July 11, covered "Bombs and the Effect of Bombing on Structures." Lectures scheduled for August are "Civilian Organization for Passive Defense" and a resume of the series.

Kendall Urges Conservation of L. C. L. Cars

W. C. Kendall, chairman of the Car Service Division, Association of American Railroads, has written to all transportation officers of the carriers suggesting certain ways and means of conserving the number of cars used in the movement of l. c. l. traffic. In his letter Mr. Kendall calls attention to the fact that at the meeting of the chief operating officers in Chicago on May 26, concerning increased efficiency in the handling of freight cars, reference was made to the "large number of box cars used in the movement of l. c. l. traffic."

"Since that meeting," he writes, "a number of roads reported considerable saving in cars used. These reports indicate that analysis by all roads will present wide opportunities for making substantial savings in car use without adversely affecting service. It is accordingly urged that this subject be given continued consideration."

Among the ways and means which Mr. Kendall suggests for securing this result are the following:

I. Survey loading schedules at each station to determine possibility of eliminating scheduled cars by:

(1) Consolidating with other cars to different local stations in the same terri-

tory. Also consider possibility of consolidating second and third morning delivery cars which will be worked at destinations on Mondays.

(2) Where daily cars are running with light tonnage, consider operating same on tri-weekly schedule. This will likely affect shippers and receivers and should be worked out with them to determine minimum requirements to avoid loss of business to trucks or other transportation agencies.

II. Possibility of pool cars to serve more than one road between common points. Consider alternate car haul between lines on basis of tonnage handled for each, or otherwise mutually agreed upon basis.

III. Possibility for greater use of motor trucks for delivery on branch line or light distributing territory.

IV. Study possibilities of trucking company material to or from storekeepers, shops, etc., to eliminate car movements in this service.

Movement of Iron Ore Sets All-Time Record

The movement of iron ore on the Great Lakes during July totaled 11,390,485 long tons, setting an all-time record for any single month, according to reports made to Ralph Budd, transportation commissioner, Office for Emergency Management, by the Lake Superior Iron Ore Association.

This figure, it was pointed out, exceeds by more than 300,000 tons the previous record established in May of this year and compares with a movement of 10,534,431 long tons during July of last year.

Budd Names Tank Car Consultant

The appointment of A. V. Bourque of Tulsa, Okla., as tank car consultant was announced on August 2 by Ralph Budd, transportation commissioner, Office for Emergency Management.

Mr. Bourque is executive secretary of the Tank Car Service Committee, recently formed to coordinate existing railroad tank car supply to meet increased demand for land transportation of petroleum resulting from diversion of tank ships from East Coast service, according to Mr. Budd.

He has been in the oil industry since 1906, having worked on various oil trade journals, and for associations of petroleum refineries; and was allocator for the mid-continent oil fields for the NRA, said the announcement.

Price Control Bill Exempts Rates

The Administration's price control bill which was introduced in both houses of Congress this week specifically exempts from its scope railroad rates or rates charged by any other common carrier or public utility. In the section defining the term "commodity," the bill states that "nothing in this act shall be construed to authorize the regulation of . . . rates charged by any common carrier or other public utility."

The bill which is designed to avert inflation by placing a ceiling on prices, would delegate to the President the power to fix prices of most commodities, subject to complete judicial review by a three-judge Emergency Court of Appeals, and by the Supreme Court of the United States on certiorari.

Central Shows First of 95 New Cars

The New York Central placed the first of a fleet of 95 new passenger coaches on public exhibition at Grand Central, New York, on August 7. The car is the first of 45 being built by the Pullman-Standard Car Manufacturing Company. The remaining 50 are to be turned out by the American Car & Foundry Company and the Pressed Steel Car Company in equal portions. The entire 95 cars are expected to be in service before the end of the year.

All the cars are built of high-tensile, low-alloy steel, welded throughout, except the 25 cars to be built by Pressed Steel, which will have riveted and welded superstructures. The cars are fully streamlined, including skirting and have folding vestibule steps. Each is equipped with 28 rotating, reclining seats, with foam rubber cushions, providing seating capacity for 56 persons. While all cars in the group have the same interior arrangement, variations occur in hte interior decorations and color scheme. Rust and blue are the predominating colors. Each car has an electric water cooler and electro-mechanical type of air-conditioning.

A. C. F. Fetes 1,000th Tank

The American Car & Foundry Company, on August 2, celebrated the production of its 1,000th 12-ton light combat tank with a parade and sham battle at Berwick, Pa. Fifty-five hundred employees marched in the parade which was led by the 1,000th tank dressed in white enamel. Twenty-nine fife and drum corps from Berwick and surrounding towns supplied martial music.

After the parade the tank was turned over to the Army by Charles J. Hardy, president of a.c.f., who said in part: "The job given us was in truth a man-sized one —boldly conceived, and I may be pardoned for saying, gallantly undertaken—with perhaps some doubts and fears on both sides. But the doubts have been solved and the fears banished—and the objective sought by both your department and our company has been achieved. That objective is typified by this product of our united effort—an assured source of supply of an implement of warfare unsurpassed of its kind and that (as I believe) has already proved its worth on the battlefields abroad."

In accepting the tank General Burton O. Lewis asserted that "speed and power are the rulers in modern warfare." Pointing out that a.c.f. was the first to enter into large-scale manufacture of tanks in the country he praised its production of 1,000 tanks in less than a year "as a mark to be beaten."

Following the acceptance ceremonies the sham battle was staged at the Berwick airport field. Fifteen tanks participated in a realistic combat in which a fort and a number of pill-boxes were destroyed. The car manufacturing company is now rolling off these 12-ton tanks at the rate of 14 per day, or one every 45 min. To provide facilities for manufacture of tanks, a.c.f. financed the expansion of its plants to the extent of $3,000,000, including addition of 32 furnaces for the heat-treating of armor plate. The original order for 329 tanks was com-

The 1000th Tank Produced by the American Car & Foundry Company Led the Parade at a Celebration in Berwick, Pa., on August 2

pleted two weeks ahead of schedule and a.c.f.'s total orders, including a recent one for 629, comprise 4,685 light combat tanks.

Sub-Committee to Consider Transport Board Nominations

Chairman Wheeler of the Senate committee on interstate commerce this week appointed a sub-committee to consider President Roosevelt's nominations for the transportation study board called for in the Transportation Act of 1940. As noted in the *Railway Age* of August 2, page 208, the nominees now are: Nelson Lee Smith, chairman of the New Hampshire Public Service Commission; C. E. Childe of Omaha, Nebr.; and Robert E. Webb, chairman of the Kentucky Railroad Commission.

Members of the sub-committee are: Senators Smith of South Carolina (chairman), Hill of Alabama and Tunnell of Delaware, Democrats; and Reed of Kansas and Gurney of South Dakota, Republicans.

Sub-Committee on Stewart Rate Resolution

Chairman Wheeler of the Senate committee on interstate commerce has appointed a sub-committee to consider Senate Joint Resolution 90 which would call for payments from the United States Treasury for the purpose of equalizing, as between the different regions or territories, freight charges for the transportation of defense materials during the existing emergency. Senator Stewart, Democrat of Tennessee, author of the resolution, heads the sub-committee; other members are Clark of Idaho and McFarland of Arizona, Democrats, and Shipstead of Minnesota and Gurney of South Dakota, Republicans. As noted in last week's issue, page 210, the Interstate Commerce Commission opposes the resolution.

History of D. & H. Power Reprinted by Fan Group

The "Railroadians of America," New York, have reproduced in handy booklet form two descriptions of motive power of the Delaware & Hudson, which have been out of print and unavailable for a number of years. The first, which was privately distributed in 1926, is a history of locomotives on the road from the first English import of 1829 through to the latest locomotive of 1926. The second (which has been reprinted only in part) was originally published by the road in 1936. Reprinted also are a large number of photographs of historical and modern types, dynamometer charts giving characteristics of performance of experimental high-pressure units and maps showing the extent of D. & H. network at various periods. Copies are available from Morgan Foshay, 6051 Boulevard East, West New York, N. J., at $2.

C. A. A. Announces Airport Construction Program

Construction or improvement projects on 288 airports in the United States, approved by a board consisting of the Secretaries of War, Navy, and Commerce as necessary to the national defense, were announced this week by Brig.-Gen. Donald H. Connolly, head of the Civil Aeronautics Administration, which will have charge of the work.

The locations involve a total estimated expenditure of $80,810,110, of which $53,409,800 will be spent on 26 locations in the initial program but not yet placed under construction and 149 new locations in the continental United States. By "new" locations is meant those not heretofore included in the C. A. A. program. A total of $18,968,871 will go toward continuing work on 113 other projects in the United States started in the initial program authorized last October.

The Canadian Roads in the First Half

The Canadian National in June earned an operating net totaling $6,828,443—as compared with $5,561,206 in June, 1940. Operating revenues for the month were $25,642,352 (up $3,282,415) and expenses were $18,813,909 (up $2,015,179). For the six months, C. N. R. operating net was $31,108,211 (up $15,908,129); gross was $141,715,488 (up $28,033,937); and expenses were $109,607,277 (up $12,125,808).

The Canadian Pacific in June had an operating net of $4,068,304 (an increase of $1,145,249). Its gross was $18,496,265 (up $4,304,557) and its expenses were $14,427,961 (up $3,159,308). For the six months C. P. R. gross came to $99,840,386 (a rise of $24,455,714). Expenses were $79,920,692 ($17,172,026 larger). Net operating revenues at $19,919,694 were $7,283,688 higher than in the first half of 1940.

Status of Public Stock Yards

The Interstate Commerce Commission has reopened its Ex Parte No. 127 proceeding for further hearing with respect to the common-carrier status of the Cleveland Union Stock Yards Company, South San Francisco Union Stockyards Company, St. Paul Union Stockyards Company, Union Stock Yard & Market Company, Inc., of New York, Portland (Ore.) Union Stock Yards Company, and Los Angeles Union Stock Yards Company. All of the foregoing were among the 16 companies found to be common carriers by railroad in the commission's original decision which was reviewed in the *Railway Age* of May 17, page 857.

The reopening orders also amend the order of investigation to include an inquiry into the status of the New York Stock Yards Company, South San Francisco Livestock Handling Company, Stockyards Railway Company of St. Paul, Minn., and Cincinnati Livestock Handling Company.

Truck Derails Two Trains at Crossing—Three Killed

A truck caused the derailment of two trains on the Williamsport division of the Pennsylvania at Watsentown, Pa., at 1:40 a. m., August 1, and the death of three railroad employees when it was struck by one train and hurled in the path of the other on an adjoining track. A thirty-car eastbound freight struck a large truck-tractor which had stalled on the track at a grade-crossing as it was hauling a steam shovel and threw it on the westbound track where it was hit by passenger train No. 575 bound from Washington, D. C., to Buffalo, N. Y. Of this the locomotive and first four cars (empty refrigerator, express, baggage-mail, and combination car) were de-railed, all but the last car plunging down an embankment.

The reman, engineman and a road foreman of engines were killed. Only slight injuries were sustained by passengers in the cars behind. The first two cars on the freight train also left the rails. During blockade of the line, trains were detoured between Williamsport and Milton via the Reading.

Freight Car Loading

Loading of revenue freight for the week ended August 2 totaled 883,065 cars, the Association of American Railroads announced on August 7. This was a decrease of 14,334 cars, or 1.6 per cent, below the preceding week, but an increase of 165,138 cars, or 23 per cent, above the corresponding week, in 1940, and an increase of 226,512 cars, or 34.5 per cent above the same week in 1939.

As reported in last week's issue, loadings of revenue freight for the week ended July 26 totaled 897,399 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For Week Ended Saturday, July 26

Districts	1941	1940	1939
Eastern	189,117	146,405	133,010
Allegheny	198,615	153,777	129,310
Pocahontas	59,293	50,214	48,290
Southern	119,128	97,781	93,626
Northwestern	144,457	119,750	105,198
Central Western	129,824	105,330	100,960
Southwestern	56,965	44,781	45,137
Total Western Districts	331,246	269,861	251,295
Total All Roads	897,399	718,038	655,531
Commodities			
Grain and grain products	55,277	46,024	40,822
Live stock	10,034	9,482	11,591
Coal	168,826	122,109	113,271
Coke	13,320	10,671	6,516
Forest products	47,441	36,078	32,451
Ore	78,533	68,703	43,564
Merchandise l.c.l.	155,996	148,071	152,429
Miscellaneous	367,972	276,900	254,887
July 26	897,399	718,038	655,531
July 19	899,370	730,460	651,665
July 12	876,165	736,783	669,888
July 5	740,493	637,169	555,152
June 28	908,664	752,647	661,404
Cumulative Total, 30 Weeks	23,259,855	19,736,985	17,796,036

In Canada.—Carloadings for the week ended July 26 totaled 63,188, as compared with 62,867 in the previous week and 54,655 in the corresponding week last year, according to the weekly statement of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
July 26, 1941	63,188	30,727
July 19, 1941	62,867	30,401
July 12, 1941	63,128	26,554
July 27, 1940	54,655	22,743
Cumulative Totals for Canada:		
July 26, 1941	1,743,861	876,733
July 27, 1940	1,520,858	731,199
July 29, 1939	1,299,791	613,346

Results of National Mediation Board Elections

Results of recent elections in representation-of-employees cases have been announced by the National Mediation Board. On the Lehigh Valley the Railway Patrolmen's Union, Greater New York Local

No. 22411, A. F. of L., has been chosen to represent patrolmen (special officers) in the police department; while on the Charleston & Western Carolina the maintenance of way employees have voted to have their interests represented by the Brotherhood of Maintenance of Way Employees.

On the Belt Railway of Chicago the Board conducted an election to determine who should represent the yardmasters. As a result of the voting the Brotherhood of Railroad Trainmen and the Committee representing yardmasters each received seven votes out of a total of 14 cast. Since no contestant received a majority, the Board has closed the case without certification.

Commission Reopens Mitchell Case

Following the mandate of the United States Supreme Court that Negroes traveling on interstate trains are entitled to first class Pullman accommodations like those accorded to white passengers, the Interstate Commerce Commission this week set aside its order and reopened the case wherein Negro Congressman Mitchell is seeking to force that agency to order the railroads to provide equal Pullman accommodations on interstate trains.

Details of the Supreme Court's unanimous decision reversing the commission's ruling of November 7, 1938, were given in the *Railway Age* of May 3, page 767. The commission had previously dismissed Mr. Mitchell's complaint alleging discrimination, and the decision of the Supreme Court reversed the decision of the district court in Chicago which had upheld the commission's action.

The commission's order states that its previous decision is annulled, and the case is reopened "for such other and further hearings and proceedings as may be hereafter determined and ordered by the commission."

Talks Proceeding on South New Jersey Suburban System

Creation of a high-speed electric rapid transit line running direct between suburban communities in southern New Jersey and Philadelphia, Pa., by linkage of the present electrified route of the West Jersey & Seashore division of Pennsylvania-Reading Seashore Lines to the present Delaware River Bridge High-Speed line and Philadelphia Transportation Company is at present under discussion between the South Jersey Transit Authority and the railroad. At the present time the third-rail electric line of P.-R. S. L. ends on the New Jersey side of the river and passengers must transfer to a ferry and, in most cases, to local transportation in Philadelphia itself. At the same time the existing rapid transit line across the bridge comes to an abrupt end in Camden and is at present not meeting operating expenses.

The tentative plan now under discussion would have the P.-R. S. L. lease its electrified division between Camden and Millville to the South Jersey Transit authority. The latter would build a link between the present terminus of the bridge line to the northernmost point of the West Jersey & Seashore division. Among other things, stations along the line in New Jersey would be provided with parking facilities, and the Philadelphia Transportation Company (which operates the local transportation network in Philadelphia) will be approached on its willingness to operate the line under public sponsorship.

Pennsylvania Opens New Ticket Office at Boston

A new railroad ticket office and travel service headquarters utilizing the latest in architectural forms were opened by the Pennsylvania at Boylston and Tremont streets, Boston, Mass., on August 4. The new office resembles in many respects the "downtown" ticket office opened by the road in Chicago on July 14, which was described in the *Railway Age* of July 28, page 172.

The front window of the office has been set at an oblique angle in a frame of deep red, polished granite with a bronze trim, so that instead of presenting a flat barrier to the visitor, it will direct attention into the office from the street. Inside, the space of the office has been broken up into small departments, thus creating an air of informality and of personalized service to those seeking advice on vacation tours or business trips.

Like the new Chicago office, the Boston facility has been outfitted with a visual timetable which shows in illuminated writing the routes of principal trains of the road and connecting carriers to and from some 80 Eastern cities from New England to Florida. Containing more than 12,000 ft. of electric wire, 300 ten-watt bulbs, 64 40-watt bulbs and many thousands of soldered connections and wire splices, this device completes its sequence every three minutes. On its sides are carried the names and departure times of the important through trains whose routes are coursed by neon through transparent plastics.

For patrons who wish to purchase tickets quickly without special consultation there has been provided a curved service counter of rift oak set on pyramidic bronze feet, which is located close to the front of the office. Recessed lens lights placed both behind and in front of the front windows prevent unpleasant reflections at night and at the same time illuminate the forward part of the office interior. Near the street entrance a bronze-framed diorama, or three-dimensional display, set in a curving wall of gray is designed to lead the eye backward into the room.

The parabolic walls of the main room are decorated with mural paintings and circular painted panels, showing scenes along the Pennsylvania, including details of steam and electric locomotives, high tension electric catenary lines, the Hell Gate bridge, and a modern flat-roofed station of a type being erected by the railroad. The circular panels, brightly painted in contrast with the subdued tones of the general background murals, are 11 in number and include impressions of Faneuil Hall, Boston; The Capitol, Washington, D. C.; Pennsylvania station, New York; Independence Hall, Philadelphia; a wheat field; a coal mine; ore docks; a southern beach; and other subjects.

July Employment 12.97 Per Cent Above 1940

Railroad employment increased another 2.69 per cent—from 1,156,144 to 1,187,205—during the one-month period from mid-June to mid-July, while the July total was 12.97 per cent above that for July, 1940, according to the Interstate Commerce Commission's compilation based on preliminary reports. The index number, based on the 1935-1939 monthly average as 100 and corrected for seasonal variation, was

This "Visual Timetable" Familiarizes Patrons With the Routes and Departure Times of Main Trains of the Pennsylvania and Its Connections to and from 80 Eastern Cities. It is One of the Features of the New Off-Line Ticket Office Opened in Boston, Mass., by the Road on August 4

113.4 for July, as compared with June's 110.9 and July, 1940's 100.4.

July employment in all groups was above that of the previous month and of the corresponding month last year. The largest increase over July, 1940, was the 16.04 per cent rise in the train and engine service group; next in turn came maintenance of equipment and stores, up 15 per cent and maintenance of way and structures, up 14.74 per cent. Increases over June ranged from the 0.73 per cent rise in the group embracing executives, officials and staff assistants to the 4.33 per cent increase in the maintenance of way and structures group.

O. & W. to Pass on Pulchritude of Passengers

The New York, Ontario & Western has announced a beauty contest for fair passengers to and from vacation resorts located on its line in Orange and Sullivan counties, N. Y. Entrants are being asked to submit a snap shot or posed photograph together with an entry blank which may be obtained at all hotels and boarding houses in O. & W. territory or railroad ticket offices.

In filling out the entry form, each contestant states her name and address, height and weight, railroad ticket form and number, the date stamped on the ticket, place where it was purchased and destination. In addition, the manager of the hotel or boarding house is asked to place his signature on the blank to certify that the entrant was a guest at his establishment. The railway is asking that all entries be mailed to its main office, New York, on or before midnight, September 1. On September 15, F. E. Lyford, trustee of the road, will present a first prize of $25; a second of $10 and a third of $5 to the winners at the West Shore terminal station in Weehawken, N. J.

Freight Forwarder Legislation

Agreement has been reached by the House committee on interstate and foreign commerce on freight forwarder legislation, although the provisions of the regulatory measure which the committe is expected to report had not been made public when this issue of *Railway Age* went to press. The committee bill, it is understood, will retain several provisions of the measure reported by its sub-committee, as noted in the *Railway Age* of July 12, page 73, although some controversial provisions have been altered.

Among the changes from the sub-committee bill is understood to be the elimination of the commodities clause which would have prohibited a shipper from continuing to control a forwarder after January 1, 1942. Also, groups of shippers who consolidate shipments on a non-profit basis and warehouses and shipper agents gathering and distributing shipments in terminal areas would be exempt from regulation. With respect to joint-rate arrangements between forwarders and motor carriers, the committee bill would provide for their discontinuance; but it would make the transition period 18 months instead of one year, as proposed by the sub-committee. As substitutes for such arrangements, the carriers would be authorized to publish assembling and distributing rates; but such rates would be limited in their application to make them unavailable for line-haul services where the forwarders would have to pay full tariff rates.

Like the sub-committee's bill, the committee measure is expected to provide for permits rather than certificates of convenience and necessity to authorize forwarders operations; and there will be no "grandfather" clause. Also, the committee is understood to have retained that provision which stipulates that where a common carrier controls a forwarder no rate of such carrier or the controlled forwarder shall be held to be unlawful because of the relationship between the companies.

Railroads Large Contributors to British

Employees and officers of the Baltimore & Ohio and Alton are credited with the largest donation of any single company to any organization handling funds for aid to Great Britain since the war started, according to Mrs. W. A. Deems, assistant executive secretary, British-American Ambulance Corps, New York. The total contribution from the B. & O.-Alton staff of more than $78,000 provided not only the flying ambulance (costing $65,000) which was dedicated on May 19, but as well provided a home for evacuated children at St. Just, Cornwall, and 500 radio sets for British railroad employees on duty at lonely and isolated points. It is understood that certain women's organizations on the road are raising further funds.

The railway industry leads the van in providing ground ambulances for the British. Thus far the St. Louis-San Francisco has contributed money for two ambulances; the Central of New Jersey for five and the Reading for a substantial number, as yet unknown. In addition, there is at present a drive among employees of the Lehigh Valley to contribute one per cent of their salaries for one month for the same purpose.

Wool-Storage Practices of Carriers Found Lawful

Examiner R. N. Trezise of the Interstate Commerce Commission, would have the commission find, in No. 28530, "Storage of Wool and Mohair in Mountain-Pacific Territory," that the practice of rail carriers of according 10 days' free time for loading wool and mohair in box cars at points of origin in Mountain-Pacific territory is not unreasonable or otherwise unlawful. He would further have the commission find that the practice of rail and motor carriers according 60 days' free storage of wool and mohair in freight stations, warehouses, or on other carrier premises, sometimes including box cars, at points of origin in Mountain-Pacific territory, is not unreasonable or otherwise unlawful.

As a result of the proposed finding, Examiner Trezise would have the commission discontinue the proceeding, which was instituted upon its own motion to "determine the lawfulness and reasonableness of rules, regulations, and practices of certain common carriers by railroad and carriers by motor vehicle, with respect to furnishing storage facilities and the storing of wool and mohair without charge at origins in the states of Arizona, California, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming."

I. C. C. Reverses Its Division 5; Lets Trucker By-Pass Kentucky

Reversing the decision of Division 5, the Interstate Commerce Commission has granted the Dixie Ohio Express Company common-carrier trucking rights on an additional Akron, Ohio-Atlanta, Ga., route which will by-pass Kentucky and thus achieve what was "frankly conceded" to be the applicant's chief purpose—"avoidance of weight and length restrictions in effect in Kentucky." As noted in the *Railway Age* of February 8, page 296, a Division 5 majority, consisting of Commissioners Rogers and Patterson, disapproved the application over the protest of Commissioner Lee, who wrote a dissenting opinion; but the present report of the full commission is set up as an unanimous decision.

The commission came to the conclusion that Division 5 should be reversed, but it did so "without in any sense expressing an opinion on the controversy" between the applicant and the State of Kentucky. In the latter connection the report had previously cited testimony of the director of the Division of Motor Transportation of Kentucky to the effect that "applicant has repeatedly violated both the terms of its certificates and certain Kentucky regulations," and that its Kentucky certificates were revoked in a proceeding which was before the courts on appeal. But it was the opinion of the commission that "public convenience and necessity in a proper case, may be found in operating economies and those things which contribute to expedition, safety, and efficiency in operation, all of which, though they benefit first the carrier, indirectly contribute to public safety and more reliable, more expeditious, and cheaper transportation."

Moreover, the commission was also convinced that "the use of a reasonably direct and suitable route which avoids the necessity of burdensome outlays, delays, breakage, and annoyance to shippers, incidental to compliance with the regulations of a particular state, is a legitimate operating economy which we should foster and encourage and of the same character as the avoidance of a toll ridge, or of a mountainous route in favor of a level one." As for advantages which the decision may give Dixie Ohio over its competitors who are complying with Kentucky regulations, the commission suggests that such competitors might seek similar relief and thus avoid operations through Kentucky.

June Locomotive Shipments

June shipments of railroad locomotives totaled 79 as compared with a revised figure of 87 for May and 39 in June, 1940, according to reports received by the Department of Commerce's Bureau of the Census from the country's builders. Shipments for this year's first six months totaled 430 locomotives, including 57 steam, two electrics, 300 Diesel-electrics and 28 of other types for domestic service, and

30 steam, 12 electrics and one Diesel-electric for export; in the first half of last year shipments totaled 243 locomotives, including 26 steam, 176 Diesel-electrics and nine of other types for domestic service and 32 steam for export.

Unfilled orders at the end of June totaled 882 locomotives, as compared with a revised figure of 734 as of May 31, and 146 as of June 30, 1940. The 882 locomotives on order June 30, this year, included 249 steam, 12 electrics, 562 Diesel-electrics and 16 of other types for domestic service, and six steam, 30 electrics, three Diesel-electrics and four of other types for export.

Data supplied by the Car Service Division, Association of American Railroads, on locomotive building in railroad shops show that nine locomotives, including seven steam and two electrics, were thus produced during this year's first six months. In the first half of 1940 railroad shops produced 42 locomotives, including 25 steam and 17 electrics. As of July 1 there were on order in railroad shops 51 locomotives, including 31 steam and 20 electrics.

Pension Acts Interpretations

Certain individuals employed by the Western Union Telegraph Company under contracts with the New York Central are subject to the Railroad Retirement and Railroad Unemployment Insurance acts, according to a recent ruling of the Railroad Retirement Board's general counsel. The ruling brings under those acts the entire service and one-half the compensation of joint superintendents and assistant superintendents; general foremen, assistant general foremen, maintenance (or division) foremen, the clerical staffs of the maintenance foremen and any other members of the "line supervisory force." Also ruled in are the entire service and all the compensation of the clerical forces in the offices of joint superintendents and assistant superintendents.

"These employees," according to a Retirement Board announcement, "work with lines and equipment leased by the Western Union from the New York Central. While the Western Union is not an employer within the meaning of the Railroad Retirement and Unemployment Insurance acts, the general counsel held that the service of these employees was creditable because it was rendered subject to the continuing authority of the New York Central to supervise and direct it." At the same time, the general counsel ruled that telegraph section (or station) linemen, gang foremen, gang laborers and gang cooks employed under the contracts are not covered—because such employees were subject "solely to the continuing authority of Western Union to supervise and direct their service."

Another recent ruling of the Board's general counsel holds that the Amalgamated Association of Street, Electric Railway and Motor Coach Employees of America is an employer under the Retirement and Unemployment Insurance Acts. Such a ruling makes the officers and employees of that union eligible to participate in the benefits of those acts—provided such officers and employees and their union employer pay the taxes called for in the Carriers Taxing Act. In his ruling on the Amalgamated, the Board's general counsel held that the union is a "railway" labor organization because it qualified by being national in scope, organized in accordance with the Railway Labor Act; and because it has represented the employees of at least 17 companies which have been found to be employers under the Retirement and Unemployment Insurance Acts.

Roosevelt Vetoes Emergency Road Bill

President Roosevelt, on August 4, advised the Senate and House that he had vetoed S. 1580, the bill introduced by Senator Hayden, Democrat of Arizona, which was intended to translate into law the President's wishes regarding the building and strengthening of roads for emergency purposes.

The President's main objection to the bill as passed by Congress was that the funds authorized were to be apportioned among the states in accordance with the existing Federal Aid Act, rather than in accordance with their actual needs. He went on to point out that he had asked for only $25,000,000 to strengthen bridges and improve highways, but that Congress had increased this figure to $125,000,000. In fact, continued the President, it is entirely possible that the higher figure would not be sufficient to do the necessary work due to the fact that the money has to be apportioned among all the states.

The President also objected to other features of the bill, such as the one authorizing funds for off-street parking facilities. "I feel," wrote Mr. Roosevelt, "that it is not a proper expenditure of federal money to aid in providing for the parking of vehicles in the various political subdivisons of the United States that happen to be on the strategic network of highways, particularly where the possible benefits of such expenditures are dependent upon local enforcement of parking laws or regulations."

Vichy Government Pushes Trans-Sahara Project

A railroad across the Sahara desert connecting French Morocco on the Mediterranean with French Senegal and Nigeria on the Atlantic is presently the urgent concern of the Vichy government. Talked of on one route or another for more than half a century, the project now assumes importance as a link between Europe and Dakar, key to the narrowest part of the Atlantic Ocean separating Senegal from Brazil.

Shortly after the last World War it was believed motor transport could take the place of the projected railroad, but desert caravans of trucks have proved far too expensive. The new line (on which construction is reported to be under way) will run from Bou-Arfa, rail-head on the Moroccan Eastern from the port of Oran, to a point on the Niger river at or near Tossaye, thence west along the river to Koulikoro, which is the eastern terminus of the existing line from Dakar to the interior.

Total length of the new line is estimated at 1,700 to 1,900 mi., of which some 1,250 would lie in desert region. The cost is set by the Vichy government at five milliard of francs (nominally $100,000,000). No public statement as to the gage of the new line has appeared here. At Bou-Arfa, the new road would connect with a standard-gage line giving access to the extensive Moroccan and Algerian railroad net-work. However, shortly south thereof, at Kenadsa, the line would meet a new 3.28-ft.-gage line running via Columb Bechar to an alternative connection with Oran. And at its southern end, it would connect with the 3.28-ft. line to Dakar (700 mi.)

Southern Governors Want Rate Probe Continued

The Southern Governors' Freight Rate Conference, the Southern Traffic League, and the Nashville Freight Bureau have asked the Interstate Commerce Commission to deny a petition filed two weeks ago by the Association of American Railroads seeking to have the commission indefinitely postpone its general class rate investigation in Docket Nos. 28300 and 28310, details of which were given in the *Railway Age* of July 26, page 174. As noted in last week's issue, the American Trucking Associations, Inc., has also petitioned the commission to deny the carriers' plea for an indefinite postponement of the case.

These three petitioners answer the argument of the railroads to the effect that during the present national emergency is no time to attempt to dislocate rate schedules by saying that they believe the "setting in order of this feature of our domestic affairs (the alleged discrimination in freight rates between sections of the country) by the removal of these rate injustices and thereby promoting the free movement of traffic within and from the South incident to the national emergency will go far to promote rather than retard the national defense."

The carriers had charged that any records made now would be "stale" by the time the commission got around to reaching a decision on the matter of rates and classifications. The Southern Governors' answer to this is that the records, indeed, will be "stale" if the investigation is further delayed.

The petitioners also charge that the carriers are seeking to gain support for their position by asking their shippers to support their petition to the commission.

Other parties joining in asking the commission to deny the carriers' petition and expedite the proceeding included the Southeastern Association of Railroad Utilities Commissioners, and the States of Arkansas, Louisiana, Oklahoma, and Texas, and the Tampa Traffic Association.

At the same time the Southeast-Southwest Shippers Conference has joined the railroads in support of their petition asking that the investigation be indefinitely postponed.

Steno Must Type Sixty Words a Minute

Ability to type 60 words and take dictation at 125 words a minute is the minimum requirement for women stenographers in transportation in Chicago, according to a recent survey conducted by a Women's Executive Committee which was organized

in April coincident with Youth Week, an annual movement sponsored by educational and business interests. The survey, in which 97 railroad, airline, truck and bus companies cooperated, revealed a total of 74 job possibilities for women, 24 of which are with railroad companies. Besides stenographic and office positions, these include bookkeepers, telegraph and teletype operators, office nurses, laboratory and X-ray technicians, accounting machine operators, stewardesses, chefs, seamstresses, passenger and freight representatives, publicity representatives, tour directors, and dietitians.

Among the basic qualifications demanded by railroad employers of young women are: at least a high school education, accuracy, correct spelling, pleasing personality, appearance and voice. College-trained women are required for jobs as laboratory technicians, for information counter work, and as passenger, freight and publicity representatives. Jobs for which no educational requirements are listed include machine operators and women chefs, while positions such as seamstresses and maids may be held by grammar school graduates.

Companies cooperating in the job survey stressed the importance of such personal qualities as dependability, tactfulness, willingness, and patience. Good memory was listed as a necessary requirement for office workers and women holding positions entailing the memorizing of train schedules and fares.

Railroads Co-operating with OPM on Scrap-Shortage Problem

The railroad industry has for some time been engaged in an intensive effort to produce as much steel scrap as possible and thereby aid the Office of Production Management's offorts to alleviate the scrap shortages. A review of the carriers' recent efforts in that connection was obtained from the Association of American Railroads this week.

The scrap clean-up drive got under way last April on OPM representations of an impending shortage and as a result of a suggestion from Ralph Budd, defense transportation commissioner, to J. J. Pelley, president of the Association of American Railroads. The suggestion was passed on to the railroads in the form of an A. A. R. recommendation and request for reports on scrap which might be available from cars and locomotives scheduled for dismantling. The returns indicated that 150,000 tons of steel scrap would be forthcoming from that source.

Following up on the foregoing in June, Mr. Budd called attention to the possibility of obtaining additional steel scrap by taking up unused yard and industry tracks, and tracks embedded in streets; and in late July OPM's Iron & Steel Section conferred with the A. A. R. on the possibility of obtaining still more steel scrap from the railroads. There came the suggestion that considerable scrap could be obtained by taking up rails on abandoned lines and lines with respect to which abandonment proceedings were pending. Some of such rail, it was further suggested, could be used for lines now being built at military and defense establishments. Reports to the A. A. R. indicated that the rail in unused yard and industrial tracks and abandoned lines might be expected to produce 140,000 tons of steel scrap.

Some rumors in connection with the clean-up drive have indicated that it would contemplate railroad requests to the Interstate Commerce Commission for expedition of pending abandonment proceedings; but it is understood that no such representations are planned. In that connection, Chairman Eastman of the I. C. C. said that in any event the commission could not do much more than to continue its practice of working hard to dispose of abandonment applications as expeditiously as possible while at the same time proceeding in accordance with the law.

Meanwhile the Department of Justice has responded to a request from Leon Henderson, administrator of the Office of Price Administration and Civilian Supply, and launched an investigation "of possible violation of the anti-trust laws in the iron and steel scrap industry." In commenting on the investigation an OPACS statement said that "elimination of current abuses is expected to facilitate free flow of scrap and prevent hoarding." In his letter to the attorney general Mr. Henderson said in part: "We are informed that there are approximately 15 large brokers of iron and steel scrap who supply all the steel mills, the principal consumers of scrap, with approximately 90 per cent of their needs. These brokers in turn obtain their scrap supply through dealers who purchase from sub-dealers and so on down the line to the producer of scrap. It is my understanding that certain of these brokers and dealers have subsidized secretly other dealers and sub-dealers, sometimes as many as a hundred or more. In this way a single broker has, in some instances, achieved a monopoly over all of the scrap produced in an entire region. This control over the supply of scrap has been utilized as a means for enhancing scrap prices. . . ."

Universal Goes into Air Freight Business

"Forwarding of freight by air has been initiated from New York and Detroit, Mich., and soon will be extended to other cities," according to a recent announcement by Fred N. Melius, president of the Universal Air Freight Company, a subsidiary of the United States Freight Company.

"The purpose of the service," Mr. Melius stated, "is to give shippers the advantage of the rapid transport afforded by America's airlines, at rates far lower than has been possible heretofore. The forwarding company sends consolidations of parcels at bulk rates and thus can pass on to the individual shipper a substantial saving from the rate which would be charged to send a parcel separately. To meet the demand for speed in defense shipments, cargo movements on the commercial airlines have been on the increase but as yet are carrying only the most urgent items because of high costs."

Shipments are being accepted at New York and Detroit for direct air delivery to the following 12 cities: Chicago, Cleveland, Ohio; Dallas, Tex.; Denver, Colo.; Des Moines, Ia.; Kansas City, Mo.; Los Angeles, Calif.; Minneapolis, Minn.; Omaha, Nebr.; St. Louis, Mo.; St. Paul, Minn., and Tulsa, Okla.

Not Much Wheat Moving in N. W.

(Continued from page 242)

the season, was already glutted with government-loan wheat, which, when once placed in storage, becomes stagnant for a period of several months. To add to the storage difficulties, the percentage of such storage wheat of the new crop was much higher (about 85 per cent of the total) than anyone had anticipated in the early run of the new wheat. As a result, the storage facilities were taxed to the utmost, with no compensating relief afforded by an outbound movement.

On July 9, the Board of Trade issued a warning to the entire Southwest grain area that Kansas City storage facilities were close to the "bursting" point, but this warning did not appreciably diminish the volume of wheat pouring in, so that, shortly thereafter, the joint terminal committee of the grain trade reported to the A. A. R. that the market could not absorb any more storage wheat. As a result, the Car Service division issued a restrictive order on storage wheat moving into Kansas City. What actually happened was that between June 23 and July 14, the Kansas City market received 18,463 cars of wheat, and, during the same period, only 3,381 cars were shipped out, including reconsignments. Thus, in three weeks, this terminal, usually filled to start with, lost ground on vacant space to the extent of 15,000 cars, or somewhat more than 24,000,000 bushels. The net loss was actually somewhat less, since in the same period only 83 cars of corn were received, as against 1,076 shipped out, or a gain of 1,600,000 bushels.

The restrictive action taken by the Car Service division at Kansas City at the request of the grain trade avoided serious congestion at that terminal. At its worst, on July 14, the pile-up consisted of about 1,100 cars of storage wheat on track in the terminal which could not be placed immediately. By maintaining pressure on the C. C. C. and setting its ponderous machinery into at least slow motion, space was found for all of these cars during the week of July 14. While some of these cars went on demurrage for short periods, they were all unloaded and the empties released by the night of July 19.

Since then, receipts have been averaging about 200 cars a day, and the outbound movement has been at an approximately similar figure. The ratio of "free" wheat, as contrasted with government storage wheat, has also changed materially, being now about 40 per cent of the total, instead of 15 per cent as in the early days of the movement. The 60 per cent of storage wheat all has space arranged for it in advance, so that the Kansas City terminal now has no congestion.

The peak movement is definitely over, so there is now no chance of jamming Kansas City with cars. However, the partial permit system established on July 14 is still in effect and there is no chance of its being removed for some time to come, as

the Kansas City terminal is still in no condition to be flooded with government loan wheat for storage. The elevators are still full to within approximately five per cent of their total capacity and this space is essential to grade, consolidate, turn and condition the new grain.

The condition at the sub-terminals is the same, on a smaller scale, as that at Kansas City. Such wheat storage centers as Enid, Okla., and Salina, Kan., felt the pinch even before Kansas City. Almost without exception, the permit system has been applied at important terminals throughout the Middle West.

As spokesman for the grain industry, Frank A. Theis, president of the Simonds-Shields-Theis Grain Company, Kansas City, made the following statement as to the part the railways have played:

"The railways have performed a remarkable service this season. They were thoroughly cognizant of the situation and prepared for it by having adequate cars in the territory as it developed. They handled a tremendous amount of old wheat movement which was under the jurisdiction of the Commodity Credit Corporation. Then they immediately merged into this same effort the energy required to handle the new grain crop. I have heard no complaints of any kind as to the railways' inability to furnish equipment and move the cars in a perfectly orderly and efficient manner."

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago, Ill.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, F. T. R. M. & O. R. R., 327 S. La Salle St., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. P. Soebbing, 1431 Railway Exchange Bldg., St. Louis, Mo. Annual meeting, October 7-9, 1941, San Francisco, Cal.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York, N. Y. Annual meeting, November 11-13, 1941, Del Monte Hotel, Del Monte, Cal.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill. Annual meeting, May 12-14, 1942, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill. Annual meeting, January 16-17, 1942, St. Louis, Mo.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—F. R. Borger, C. I. & L. Ry., 836 S. Federal St., Chicago, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill. Annual meeting, October 14-16, 1941, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—G. E. Smith, New York Central R. R., La Salle Street Station, Chicago, Ill. Annual meeting, October 27-29, 1941, Palmer House, Chicago, Ill.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—M. W. Jones, Baltimore & Ohio R. R., 1105 B. & O. R. R. Bldg., Baltimore, Md. Fall meeting, October, 1941, Hotel Monteleone, New Orleans, La.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. H. Huntt, Tower Bldg., Washington, D. C. Annual meeting, September 29-30, 1941, Hotel Morrison, Chicago, Ill.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York, N. Y.
Railroad Division, C. L. Combes, *Railway Age*, 30 Church St., New York, N. Y.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York, N. Y. Annual meeting, September 29-October 2, 1941, Chalfonte-Haddon Hall, Atlantic City, N. J.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St. N. W., Washington, D. C. Annual meeting January 27-29, 1942, Nicollet Hotel, Minneapolis, Minn.

ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Bldg., Washington, D. C.
Operations and Maintenance Department.—Charles H. Buford, Vice-President, Transportation Bldg., Washington, D. C.
Operating-Transportation Division. — L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
Operating Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York, N. Y. Annual meeting, October 14-15, 1941, Congress Hotel, Chicago, Ill.
Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Protective Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Safety Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York, N. Y. Annual meeting September 23-25, 1941, Gibson Hotel, Cincinnati, Ohio.
Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.
Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.
Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, October 28, 1941, Hotel Sherman, Chicago, Ill.
Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y. Annual meeting, September 30-October 2, 1941, Broadmoor Hotel, Colorado Springs, Colo.
Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago, Ill. Annual meeting, June, 1942.
Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago, Ill. Annual meeting, October 28-30, 1941, Hotel Sherman, Chicago, Ill.
Purchases and Stores Division.—W. J. Farrell, Transportation Bldg., Washington, D. C.
Freight Claim Division.—Lewis Pilcher 59 E. Van Buren St., Chicago, Ill. Annual meeting, 1942, Chicago, Ill.
Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington, D. C.
Car-Service Division.—E. W. Coughlin, Transportation Bldg., Washington, D. C.
Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington, D. C.
Accounting Division. — E. R. Ford Transportation Bldg., Washington, D. C.
Treasury Division.—E. R. Ford, Transportation Bldg., Washington, D. C. Annual meeting, September 24-26, 1941, Broadmoor Hotel, Colorado Springs, Colo.
Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill. Annual meeting, 1942, Buffalo, N. Y.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—R. Y. Barham, Armco Railroad Sales Company, 310 S. Michigan Ave., Chicago, Ill. Exhibit in connection with American Railway Bridge and Building Association Convention, October 14-16, 1941, Hotel Stevens, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS, MO.—J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—Frank Kartheiser, Chief Clerk, Mechanical Dept., C. B. & Q., Chicago, Ill. Annual meeting September 23-24, 1941, Hotel Sherman, Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, 8238 S. Campbell Ave., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—Mrs. M. D. Reed, 1817 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. T. Bougher, 424 W. 33rd St. (11th floor), New York, N. Y. Fall meeting, September 9, 1941, Cleveland, Ohio.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—J. E. Goodwin, Missouri Pacific R. R., No. Little Rock, (P. O. Little Rock), Ark. Annual meeting, September 23-24, 1941, Hotel Sherman, Chicago, Ill.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y. Annual meeting, September 23-24, 1941, Hotel Sherman, Chicago, Ill.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington, D. C. Annual meeting, August 26-29, 1941, St. Paul Hotel, St. Paul, Minn.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill. Exhibit in connection with A. R. E. A. Convention, March 16-19, 1942, International Amphitheatre, Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Touraine, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September, and December, 29 W. 39th St., New York, N. Y.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box A, Sausalito, Cal. Regular meetings, second Thursday of each alternate month, at Palace Hotel, San Francisco, and second Friday of each alternate month, at Hotel Hayward, Los Angeles.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago, Ill. Annual meeting, November 13, 1941, Hotel Stevens, Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 600 W. Jackson Blvd., Chicago, Ill. Annual meeting and exhibit, October 28-30, 1941, Hotel Sherman, Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago, Ill. Annual meeting, September 23-24, 1941, Hotel Sherman, Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone Section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 903 Syndicate Trust Bldg., St. Louis, Mo.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill. Annual meeting, September 16-18, 1941, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga. Ry., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. and C. Company, 59 E. Van Buren St., Chicago, Ill. Exhibit in connection with Roadmasters and Maintenance of Way Association Convention, September 15-18, 1941, Hotel Stevens, Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 112 Hatfield Place, Port Richmond, Staten Island, N. Y. Annual meeting, October 11-12, 1941, Cleveland, Ohio.

WESTERN RAILWAY CLUB.—E. E. Thulin (Executive Secretary) Earl Thulin Company, 122 S. Michigan Ave., Chicago, Ill. Regular meetings, third Monday of each month, except June, July, August and September, Hotel Sherman, Chicago, Ill.

Construction

ALASKA RAILROAD.—The U. S. Engineer Office of the War Department, Seattle, Wash., has awarded a contract amounting to approximately $3,525,000 to the West Construction Company, Boston, Mass., for the construction of 11.3 miles of the Passage Canal connection of the Alaska Railroad, a new line extending 14 miles from a point on the existing railroad about 66 miles northerly from Seward, Alaska, near Twenty Mile river to tidewater on the south shore of Passage Canal, an arm of Prince William Sound. The line will have several pile trestles and two tunnels, one approximately 13,070 ft. long and the other about 4,960 ft. long. The contract includes grading for necessary yard tracks and sidings and placing bridge ties, but does not include any rail, ballast, crossties, docks or buildings. The contract covers construction on all but the westerly 2.7 miles of the new line.

CHESAPEAKE & OHIO.—This company has received bids for the construction of a coaling station and wye track at Phoebus, Va., with cost estimated at $57,725.

CHESAPEAKE & OHIO.—This company has received bids for the construction of 12 storage warehouses and sprinkler systems in Morrison, Va., at estimated cost of $390,000.

CHESAPEAKE & OHIO.—This company plans to ask for bids for the construction of car repair facilities and additional test tracks at Newport News, Va., at estimated cost of $133,815 and for additions and alterations to warehouses at Norfolk, Va., at estimated cost of $75,000.

CHESAPEAKE & OHIO.—This company has authorized the rebuilding of the pedestals in a viaduct at Richmond, Va., at estimated cost of $56,600 and the construction of an extension to a passing track at St. Albans, W. Va., at estimated cost of $25,700. The work will be carried out by the company's own forces.

DENVER & RIO GRANDE WESTERN.—A contract amounting to $48,825 has been awarded the F. W. Miller Heating Company, Chicago, for the installation of a direct steaming system and remodeling the boiler washing system at Salt Lake City, Utah.

DENVER & RIO GRANDE WESTERN.—A contract amounting to $45,300 has been awarded the Graver Tank & Manufacturing Company, East Chicago, Ind., for the construction of a combination storage and water treating plant at Salt Lake City, Utah.

ILLINOIS CENTRAL.—A contract has been awarded the Ross & White Co., Chicago, for a "Red Devil" locomotive engine coaler to be installed at Durant, Miss.

MISSOURI-KANSAS-TEXAS. — The U. S. Engineer Office of the War Department at Denison, Tex., has awarded a contract to the Katy for the construction of 3.2 miles of trackage to provide access to the Texas Aviation Mechanics School at Wichita Falls, Tex. The spur will connect with the main line of the Katy about 5 miles north of Wichita Falls and will consist of 1.7 miles of main lead track and 1.5 miles of sidings, serving 23 warehouses and facilities for unloading oil and gasoline. The cost of the work will be approximately $105,500.

NEW YORK CENTRAL.—The Ohio State Department of Highways has awarded a contract amounting to $244,217 to Lomardo Brothers Construction Company, Cleveland, Ohio, for the construction of an underpass for State highways No. 520 and No. 283 under six tracks of the New York Central at Painesville, Ohio. The underpass will consist of box-type concrete abutments with a structural steel and reinforced concrete superstructure supporting the tracks. It will provide a roadway width of 44 ft. and two 5 ft. 1 in. sidewalks.

OREGON, PACIFIC & EASTERN.—The office of the district engineer of the War Department at Portland, Ore., has awarded a contract amounting to $235,848 to McNutt Bros., Eugene, Ore., and another contract amounting to $142,906 to the E. C. Hall Company at Eugene, covering the construction of roadbed and masonry for the relocation of 7.12 miles of the O. P. & E. and the construction of certain county roads, necessitated by the proposed Dorena flood control dam and reservoir in Lane County, Ore. Other contracts for the bridges and track will be let later.

PENNSYLVANIA.—A contract has been awarded the Ross & White Co., Chicago, for a "Red Devil" locomotive engine coaler to be installed at Dunkirk, Ind.

PENNSYLVANIA.—The Pennsylvania Public Utility Commission has approved plans calling for the elimination of several grade crossings at the two main tracks and one siding track of this road's Philadelphia division in the village of Florin, Pa.

Estimated cost of the entire improvement, including highway and railroad work, amounts to $252,181.

SOUTHERN.—A contract has been awarded the Ross & White Co., Chicago, for a "Red Devil" locomotive engine coaler to be installed at Williamson, Ga.

THE UNITED STATES ARMY has awarded a contract for the construction of roads and railways at the Middletown Air Depot, Pa., at cost of $108,814, to the Pennsylvania Supply Company of Harrisburg, Pa.

UNION PACIFIC. — The Truscon Steel Company, Youngstown, Ohio, has been awarded a contract for the construction of three steel buildings at the Cheyenne (Wyo.) shops, which will cost approximately $465,000 and will replace those destroyed by fire on May 19. The new buildings will consist of a 100-ft. by 176-ft. mill shop, a 96-ft. by 264-ft. wheel and tank shop and a 40-ft. by 66-ft. grease house with basement.

UNION PACIFIC.—A contract has been awarded the T. J. Kirshhof Construction Company, Denver, Colo., for the construction of two one-story buildings in that city, a warehouse with an attached retail store building and a bakery warehouse, which will be leased to the Miller Groceteria. The warehouse will occupy an area 326 ft. by 201 ft. and the attached retail store building will be 126 ft. by 61 ft. The bakery warehouse will be 201 ft. by 73 ft. Both buildings will be constructed with 6-in reinforced concrete floor slabs on reinforced concrete foundations and footings. The exterior walls will be of face brick backed with tile and the interior partitions will be of tile. A composition roof will be supported by wood purlins and steel colums and beams. Both buildings will provide offices, loading ports, cold storage rooms and bakery ovens. The total cost of the building will be approximately $210,000.

KANSAS, OKLAHOMA & GULF. — The State Highway Department of Oklahoma has awarded a contract amounting to $110,373 to Moran and Buckner, Muskogee, Okla., for the construction of a highway overpass for U. S. Highway No. 69 over the K. O. & G. tracks on 32nd street in Muskogee. The structure will consist of three 40-ft. and two 33-ft. steel I-beam spans with a concrete floor and ornamental steel hand rails, supported on concrete piers and skelton type abutments on concrete piling. The structure will provide two 24-ft. roadways, with a 4-ft. dividing strip and two 3-ft. sidewalks.

MISSOURI-KANSAS-TEXAS. — The State Highway Department of Oklahoma has awarded a contract amounting to $97,004 to C. K. Howard & Co., Oklahoma City, Okla., for the construction of bridges for four tracks of the Katy at Court street in Atoka, Okla., to provide an underpass for State Highway No. 3. Each track will be carried independently on a 30-ft. through plate girder span, with floor cover plates and a ballasted deck, resting on box type concrete abutments, which provide a six-foot sidewalk through each abutment.

MISSOURI-KANSAS-TEXAS. — The State Highway Department of Oklahoma has awarded a contract amounting to $66,257 to O. J. Pharaoh, Henryetta, Okla., for the construction of a bridge on the Katy 4½ miles north of Muskogee, Okla., to provide an underpass for U. S. Highway No. 69. The structure will consist of a single track bridge with one 25-ft., three 37-ft., and one 25-ft., I-beam spans skewed at an angle of 78 deg., resting on concrete piers and abutments founded on timber piling.

ST. LOUIS-SAN FRANCISCO.—The State Highway Commission of Oklahoma has awarded a contract amounting to $106,894 to the El Reno Construction Company, El Reno, Okla., for the construction of a highway overpass structure for U. S. Highway No. 60 over the tracks of the Frisco approximately 1½ miles northeast of Wyandotte, Okla. The bridge will consist of nine 40-ft., one 30-ft., one 63-ft., and three 40-ft., steel I-beam spans with a concrete floor and handrail, resting on concrete piers and abutments and providing a 26-ft. roadway and two 18-in. sidewalks.

Supply Trade

Stewart McNaughton, whose appointment as general sales manager of the locomotive division of the **Baldwin Locomotive Works,** in charge of all steam and Diesel locomotive sales, was reported in the *Railway Age* of July 26, was born in Philadelphia, Pa., and obtained his education in the Central High School and the Franklin Institute of that city. He became associated with the Baldwin Locomotive Works in 1899 as a mechanical draftsman and for the next fifteen years devoted

Stewart McNaughton

his time to the various phases of locomotive design and engineering. In 1915 he entered the sales department as manager of the locomotive spare and repair parts activities of the company, and in 1919 was given general supervision over steam locomotive sales.

Arthur C. Holden, resident manager of the Chicago office of the General Railway Signal Company, has been promoted to western manager, effective August 1, with jurisdiction over the territories heretofore handled by three offices, including those at Chicago, St. Louis, Mo., and San Francisco, Cal. **Errol W. Stone,** resident manager of the office at St. Louis, has been advanced to assistant works manager, with headquarters at Rochester, N. Y., reporting to **F. W. Moffett,** vice-president. **Jacob A. Geneser,** sales engineer in the Chicago office, has been promoted to succeed Mr. Stone as resident manager at St. Louis. **Arthur E. Heimbach,** principal assistant engineer of the Pittsburgh & Lake Erie, with headquarters at Pittsburgh, Pa., has been appointed sales engineer for the General Railway Signal Company, with headquarters in the Chicago office.

Mr. Holden was born at Waterloo, Iowa, and graduated in electrical engineering from Iowa State College. His first signal experience began early in the summer of 1902 with the Hall Signal Company. During portions of 1904 and 1905 he was employed as a laborer by the Taylor Signal Company, as paymaster by the Hall Signal Company, as an inspector for the Illinois Central and as a draftsman in the signal department of the Union Pacific. From June, 1905, to June, 1910, he was general signal inspector on the Great

Arthur C. Holden

Northern. Following Mr. Holden's connection with the General Railway Signal Company in 1910, he made a special study of installation and construction work, and, in the capacity of field engineer, he had charge of the company's field office at St. Paul, and later was connected with its offices at Chicago, Montreal, New York and Rochester. From June, 1916, to January, 1919, his attention was devoted to construction work in the Eastern district, especially the signaling of the subway, tube and elevated construction of the New York Municipal Railway Lines in New York and Brooklyn. From January, 1919,

Errol W. Stone

to April 1, 1920, he was general superintendent of construction with headquarters at Rochester, N. Y. From April 1, 1920, to March 1, 1924, he was sales manager of the household appliance division, following which he was appointed Pacific Coast manager at San Francisco. On November 1, 1925, Mr. Holden was appointed resident manager of the Chicago office, with jurisdiction over Central and Pacific Coast territories, which position he held until his recent appointment as western manager.

Mr. Stone first entered railway service in the signal department of the Great Northern in 1914, and later was employed by the Chicago, Milwaukee & St. Paul on signal construction work in the electrified zone through Montana, Idaho, and Washington. Upon the completion of this work, he went with the Southern Pacific signal department, remaining there until 1923 with the exception of two years spent with the American Expeditionary Forces in France. In 1923 he became field engineer for the National Safety Appliance Company, resigning in 1928 to go with the General Railway Signal Company as assistant superintendent of construction with headquarters at Rochester. In 1930, Mr. Stone was transferred to New York to as-

Jacob A. Geneser

sume charge of the city subway work, and in 1936 he was appointed resident engineer at San Francisco, Cal., in charge of the installation of G. R. S. signaling and train control on the San Francisco-Oakland Bay Bridge Railway. In 1939, he was appointed assistant resident manager of the St. Louis district office, and on April 1, 1940, he became resident manager, in which position he remained until his recent appointment.

Mr. Geneser was born on January 27, 1889, in Chicago. He attended the Crane High School (Chicago Technical College) and Lewis Institute. His signaling experience began in 1908 as a draftsman in the signaling department of the Chicago & North Western. In 1910, he entered the service of the General Railway Signal Company, working in the commercial department, in the signal construction department and the Chicago office, serving as chief clerk from 1918 to 1924, when he was appointed sales engineer, which position he has held until his recent appointment as resident manager of the St. Louis office.

OBITUARY

George V. Martin, sales representative, southern territory, for the National Malleable & Steel Castings Co., died August 6 in an automobile accident. He was 67 years of age. Mr. Martin had been associated with this company since 1904. Prior thereto he had been safety engineer with the Interstate Commerce Commission and, before that, connected with various railroads.

Equipment and Supplies

Equipment Buying Wave Continues

Orders for 79 steam and 99 Diesel locomotives feature July purchases

Railway equipment purchases for domestic service reported in the *Railway Age* during July together with comparisons with the preceding month of June and the corresponding month of last year are shown hereunder:

July Orders Compared

	July 1941	June 1941	July 1940
Locomotives:			
Steam	79	55	40
Diesel-electric	99	90	90
Electric	..	15	..
Total locos.	178	160	130
Freight cars	10,889	29,299	7,701
Passenger cars	174	82	71

Most noteworthy, perhaps, of July equipment buying was the sharp upsurge in number of steam locomotives ordered, 78 by railroads and one by an industrial company. Indeed, in only November and December of 1936 and January of 1930 have a larger volume of steam locomotive orders been placed in one month since the close of 1929. These orders follow the purchase of 55 steam locomotives by the carriers in June and a total of 28 steam units, 22 by railroads and six by U. S. Government departments, in May. Thus in the three months ended July 31 were placed a total of 162 steam units or more than placed in any of the full years 1931 to 1935 inclusive, 1938 or 1939. Purchases in June included 15 4-6-6-4s by the Delaware & Hudson, 15 4-8-4s by the St. Louis-San Francisco, 14 2-8-4s by the Louisville & Nashville, ten 2-8-4s by the Wheeling & Lake Erie, ten 2-8-8-2s by the Norfolk & Western, eight 4-6-6-4s by the Clinchfield and six 4-8-4s by the Richmond, Fredericksburg & Potomac.

As is also true with respect to the number of steam locomotives ordered last month, the 99 Diesel-electric units purchased in July represent the largest monthly volume placed during the current upturn in equipment buying that began in June of last year. Diesel purchases comprised 85 by the carriers and 14 by U. S. Government departments. Of the 85 placed by carriers, three were of 5,400-hp., two of 4,000-hp., two of 2,000-hp., 49 of 1,000-hp., 18 of 600 or 660-hp., and 11 of less than 600-hp. All 14 government-ordered units were of less than 600-hp. Leading purchases included 13 by the Seaboard Air Line, 22 by member companies of the Southern System and ten by the Terminal R. R. Association of St. Louis.

Although freight car purchases in July fell off from the rapid pace of the last three months, during which period the impressive total of 64,611 cars had been ordered, nevertheless, the 10,889 cars ordered

Domestic Equipment Orders Reported in Issues of the Railway Age in July 1941 (Including August 2)

LOCOMOTIVES

Date	Name of Company	No.	Type	Builder
July 5	U. S. Navy Dept.	2	Diesel-electric Sw.	Vulcan Iron Works
July 5	Seaboard Air Line	3	Diesel-electric Frt.	Electro-Motive Corp.
		2	Diesel-electric Pass.	Electro-Motive Corp.
		2	Diesel-electric Sw.	Electro-Motive Corp.
		3	Diesel-electric Sw.	Baldwin Locomotive Works
		3	Diesel-electric Sw.	American Locomotive Co.
July 5	U. S. War Dept.	2	Diesel-electric Sw.	Vulcan Iron Works
July 12	Illinois Central	2	Diesel-electric Pass.	Electro-Motive Corp.
July 12	U. S. Navy Dept.	1	Diesel-electric Sw.	Atlas Car & Mfg. Co.
July 12	New York, Ontario & Western	5	Diesel-electric Sw.	General Electric Co.
July 12	Delaware & Hudson	15	4-6-6-4 Frt.	American Locomotive Co.
July 12	N. Y., Susquehanna & Western	4	Diesel-electric Sw.	American Locomotive Co.
July 12	Lehigh Valley	3	Diesel-electric Sw.	General Electric Co.
July 19	Boston & Maine	2	Diesel-electric Sw.	General Electric Co.
July 19	U. S. War Dept.	9	Diesel-electric Sw.	Davenport-Besler Corp.
July 19	Wheeling & Lake Erie	10	2-8-4	American Locomotive Co.
July 19	Western Maryland	1	Diesel-electric Sw.	Baldwin Locomotive Works
July 19	Ohio & Morenci	1	Diesel-electric Sw.	Davenport-Besler Corp.
July 19	Southern	2	Diesel-electric Sw.	Baldwin Locomotive Works
July 19	Upper Merion & Plymouth	1	Diesel-electric Sw.	Baldwin Locomotive Works
July 19	Elgin, Joliet & Eastern	2	Diesel-electric Sw.	Baldwin Locomotive Works
July 19	Clinchfield	8	4-6-6-4	American Locomotive Co.
July 19	St. Louis-San Francisco	15	4-8-4	Baldwin Locomotive Works
July 26	Southern	2	Diesel-electric Sw.	Electro-Motive Corp.
		1	Diesel-electric Sw.	American Locomotive Co.
	Cin. New Orleans & Tex. Pas.	7	Diesel-electric Sw.	Electro-Motive Corp.
		5	Diesel-electric Sw.	American Locomotive Co.
	Alabama Great Southern	3	Diesel-electric Sw.	American Locomotive Co.
	New Orleans Terminal	2	Diesel-electric Sw.	Electro-Motive Corp.
July 26	Union Railroad	4	Diesel-electric Sw.	Baldwin Locomotive Works
July 26	Patapsco & Black Rivers	2	Diesel-electric Sw.	Baldwin Locomotive Works
July 26	Central of Georgia	2	Diesel-electric Sw.	Electro-Motive Corp.
July 26	Norfolk & Western	10	2-8-8-2	Company Shops
Aug. 2	Crucible Steel Company	1	Fireless	Heisler Locomotive Works
Aug. 2	Newburgh & South Shore	4	Diesel-electric Sw.	American Locomotive Co.
Aug. 2	Louisville & Nashville	14	2-8-4	Baldwin Locomotive Works
Aug. 2	Terminal R. R. Association of St. Louis	5	Diesel-electric Sw.	American Locomotive Co.
		5	Diesel-electric Sw.	Baldwin Locomotive Works
Aug. 2	Richmond, Fredericksburg & Potomac	6	4-8-4	Baldwin Locomotive Works
Aug. 2	St. Louis-San Francisco	5	Diesel-electric Sw.	Baldwin Locomotive Works
Aug. 2	New York, Susquehanna & Western	2	Diesel-electric Sw.	American Locomotive Co.

FREIGHT CARS

July 5	Southern Pacific	700	Box	Pressed Steel Car
		700	Box	Pullman-Standard
		700	Box	American Car & Foundry Co.
		500	Box	Mt. Vernon
		700	Gondola	Bethlehem Steel Co.
		150	Hopper	American Car & Foundry Co.
		300	Flat	Pacific Car & Foundry Co.
		250	Tank	General American
July 5	N. Y. Chicago & St. Louis	250	Hopper	American Car & Foundry Co.
July 5	Clinchfield	5	Cov. Hopper	American Car & Foundry Co.
		7	Caboose	American Car & Foundry Co.
July 5	Seaboard Air Line	500	Box	Pullman-Standard
		100	Flat	Greenville Steel Car
		100	Hopper	Bethlehem Steel Co.
		50	Cement	Greenville Steel Car
July 5	Florida East Coast	30	Gondola	American Car & Foundry Co.
		30	Hopper	American Car & Foundry Co.
July 12	Reading	50	Cement	Company Shops
July 12	St. Louis Southwestern	500		Company Shops
July 12	Delaware, Lackawanna & West'n	600	Box	American Car & Foundry Co.
		250	Gondola	American Car & Foundry Co.
		400	Box	Magor Car Corp.
July 19	Western Maryland	4	Flat	Company Shops
July 19	Central of New Jersey	1,000	Gondola	Bethlehem Steel Co.
July 19	U. S. Navy Dept.	50	Flat	Haffner-Thrall
July 19	U. S. War Dept.	50	Tank	General American
July 19	N. Y., New Haven & Hartford	50	Caboose	Pullman-Standard
July 19	Wabash	100	D. E. Gondola	Company Shops
July 26	Akron, Canton & Youngstown	15	Cov. Hopper	American Car & Foundry Co.
July 26	Chicago & North Western	700	Box	American Car & Foundry Co.
July 26	Missouri & Arkansas	100	Box	American Car & Foundry Co.
July 26	Minneapolis, St. Paul & Sault Ste. Marie	5	Cov. Hopper	American Car & Foundry Co.
July 26	Cincinnati, New Orleans & Texas Pacific	2	Flat	Company Shops
July 26	U. S. War Dept.	68	Ammunition	St. Louis Car
		16	Flat	Haffner-Thrall
July 26	N. Y., Chicago & St. Louis	250	L.S.-D.E. Gondola	Greenville Steel Car
		100	Automobile	Ralston Steel Car
July 26	Missouri-Kansas-Texas	60	Caboose	Company Shops
Aug. 2	Chicago & North Western	675	Box	Pullman-Standard
		250	Ore	Bethlehem Steel Co.
Aug. 2	Chicago, St. Paul, Minneapolis & Omaha	500	Box	General American
Aug. 2	Lehigh Valley	12	Caboose	Company Shops
Aug. 2	Denver & Rio Grande Western	10	Caboose	Bethlehem Steel Co.

PASSENGER-TRAIN CARS

July 12	Illinois Central	2	Lounge	Company Shops
July 12	Pullman Company (Illinois Central)	20	Sleeping	Pullman-Standard
July 19	(Atchison, Topeka & Santa Fe)	44	Sleeping	Pullman-Standard
	(S. P.-C. R. I. & P.)	24	Sleeping	Pullman-Standard
	(U. P.-S. P.-C. & N. W.)	78	Sleeping	Pullman-Standard
Aug. 2	Pullman Company	6	Sleeping	Pullman-Standard

last month compare well with any other month since the current buying wave began and exceed the volume ordered in any corresponding July in the 1929-1941 cycle. Purchases were divided 10,161 to car builders and 728 to the railroads' own shops. Orders comprised 6,175 box, 2,330 gondola, 905 hopper, 472 flat, 300 tank, 139 caboose, 500 unspecified and 68 miscellaneous cars. More particularly noticeable during July was a sharp falling off in freight car inquiries. In the number of reported unfilled inquiries carried over into August, there was included only one large program, namely, by the Missouri Pacific for 2,850 cars. Considering the large backlog of orders on builders' books resulting from recent placements, and the fact that only distant delivery dates are now available to the carriers, some falling off in orders and inquiries would be a normal expectancy and the opinion is widely held that resumption of heavy buying may now await the arrival of fall. Outstanding among freight car purchases placed last month was the Southern Pacific order for 4,000 cars, which followed by only a few months an order for 2,500 cars placed by this same company.

The Pullman Company reported orders in July for 172 sleeping cars, making a total of 176 such cars placed so far this year. The assignment of these cars by carriers is indicated in the accompanying table of orders for passenger-train car equipment.

June Orders Adjusted

Orders for Diesel-electric locomotives for domestic service placed in June, as summarized in the *Railway Age* of July 5, excluded 20 units of 1,000-hp. each purchased by the Canadian National for service on the Grand Trunk Western lines. *Railway Age* statistics of locomotive orders have been adjusted to include these units and, as revised, total 90 Diesel locomotives ordered in June and 446 in the first six months. Included in June orders for freight cars were 400 hopper cars for the Cambria & Indiana and 1,000 box cars for the New York, Chicago & St. Louis. Later reports indicated the Cambria & Indiana order was for repairs to 400 hopper cars and the Nickel Plate order for only 900 cars. Totals of freight car orders have therefore been decreased by 500 cars to 29,299 for June and 92,059 for the first six months of 1941.

Equipment Orders—First Seven Months

Volume of domestic equipment orders placed during the first seven months of this year and comparison with the corresponding seven months of last year is shown hereunder:

	First seven months		
Locomotives:	1941	1940	Increase
Steam	287	129	158
Diesel-electric	545	240	305
Electric	26	2	24
Total locos.	858	371	487
Freight cars	102,948	23,922	79,026
Passenger cars	616	134	482

The 858 locomotives ordered during the first seven months exceed the number purchased in any full year since 1929 and this comparison holds true when steam and Diesel locomotives are individually compared. The 102,948 freight cars purchased, only 8,373 less than in 1929, greatly exceed the number placed in any intervening full year. During the 12 months ended July 31, 143,897 freight cars were ordered. Since 1916, this volume is exceeded in one calendar year only, namely, by the 180,154 ordered in 1922. With the inclusion of the 176 sleeping cars to be built for the Pullman Company, 123 more than last year, orders for passenger-train cars now total 616, indicating that 1941 may witness the largest volume of orders for this type of equipment since 1929.

LOCOMOTIVES

THE PHILADELPHIA, BETHLEHEM & NEW ENGLAND has ordered one Diesel-electric locomotive of 1,000-hp. from the Electro-Motive Corporation.

THE LOUISVILLE & NASHVILLE has placed an order for eight Diesel-electric passenger locomotives of 4,000-hp. each with the Electro-Motive Corporation.

THE PENNSYLVANIA has ordered one steam turbine passenger locomotive and tender from the Baldwin Locomotive Works and one steam freight locomotive and tender from the company's own shop at Altoona, Pa.

THE CENTRAL OF NEW JERSEY has placed orders for ten Diesel-electric locomotives as follows:

2 1,000-hp.—Electro-Motive Corporation
2 600-hp.—Electro-Motive Corporation
4 600-hp.—Baldwin Locomotive Works
2 600-hp.—American Locomotive Company

THE WABASH has ordered two 600-hp. Diesel - electric switching locomotives, placing one each with the Electro-Motive Corporation and the Baldwin Locomotive Works. Court authorization to purchase this equipment was reported in the *Railway Age* of June 14.

FREIGHT CARS

THE DETROIT & TOLEDO SHORE LINE is expecting to purchase six caboose cars.

THE CHICAGO GREAT WESTERN is inquiring for 200 50½ ft. 50-ton merchandise cars.

THE UNITED STATES NAVY is asking for bids on three box cars and three flat cars —Schedule 8141.

THE ATLANTIC COAST LINE has ordered 30 auto-box cars of 50 tons' capacity from the Pullman-Standard Car Manufacturing Company.

THE BURLINGTON REFRIGERATOR EXPRESS COMPANY, subsidiary of the Chicago, Burlington & Quincy, will start the construction of 300 refrigerator cars in its shops at Plattsmouth, Neb., as soon as materials are received.

Of the CHICAGO & NORTH WESTERN order for 2,125 freight cars, reported in the *Railway Age* of August 2, the 500 40½-ft. 50-ton box cars placed with the General American Transportation Corporation are for the Chicago, St. Paul, Minneapolis & Omaha.

THE FRUIT GROWERS' EXPRESS COMPANY has placed an order for 900 refrigerator cars with the company's own shops in Indiana Harbor, Ind., and is reported to be considering building an additional 500 to 600 cars. The expected placing of this order was reported in the *Railway Age* of July 26.

PASSENGER CARS

THE NEW YORK CENTRAL is reported to be considering the purchase of some new passenger-train cars and the overhauling of about 100 coaches.

IRON AND STEEL

THE DELAWARE, LACKAWANNA & WESTERN is expected to enter the market for 10,000 tons of 131-lb. rails and accessories for its 1942 requirements.

THE NEW YORK, NEW HAVEN & HARTFORD has ordered 15,000 tons of 131-lb. rail and 5,000 tons of 112-lb. rail for early 1942 delivery, dividing the order equally between the Bethlehem Steel Company and the Carnegie-Illinois Steel Corporation. A petition by this company for federal court authority to purchase the rail was reported in the *Railway Age* of July 26.

Financial

ATCHISON, TOPEKA & SANTA FE.—*Abandonment.*—Acting on petitions of the Oilton Chamber of Commerce, Division 4 of the Interstate Commerce Commission has reopened Finance Docket No. 13202, wherein the Oil Fields & Santa Fe and this company, respectively, were authorized to abandon a line and the operation thereof, extending from Frey, Okla., northerly to the end of the line near Oilton, 4.2 miles.

BANGOR & AROOSTOOK.—*Pledge and Exchange of Bonds.*—This company has asked the Interstate Commerce Commission for authority to pledge and repledge as security for short-term notes to be issued any time prior to and including December 31, 1942, $836,000 of certain mortgage bonds, heretofore issued. The notes would mature not later than January 1, 1943. At the same time the company requested permission to exchange any or all of its five per cent bonds outstanding, par for par, for consolidated, refunding mortgage, four per cent bonds.

BRIMSTON.—*Acquisition and Operation.*—This company, which has been recently organized, has asked the Interstate Commerce Commission for authority to acquire and operate a line of railroad extending from New River, Tenn., to the end of the line, 12.4 miles.

CHESAPEAKE & OHIO.—*Equipment Trust Certificates.*—This road, on August 5, awarded a $4,300,000 issue of equipment trust certificates to Harris, Hall & Co. and associates on a bid of 100.333 for 1⅝s, representing an interest cost to the carrier of approximately 1.56. The certificates,

due August 1, 1942 to 1951, were re-offered to the public at prices to yield 0.25 to 1.90 per cent, according to maturity.

CHESAPEAKE & OHIO.—*Equipment Trust Certificates.*—This company has asked the Interstate Commerce Commission for authority to assume liability for $4,300,000 of equipment trust certificates, maturing in 10 equal annual installments of $430,000 on August 1 in each of the years from 1942 to 1951, inclusive. The proceeds of the certificates, which will bear interest at a rate not to exceed three per cent, will be used as part of the purchase price of new equipment costing a total of $5,454,190, and consisting of 1,000 50-ton, 40 ft. 6 in., all-steel box cars, and 1,000 50-ton, all-steel hopper cars.

CHICAGO & EASTERN ILLINOIS.—*Guaranty of Bonds.*—This company, which was recently formed as a result of the reorganization of the Chicago & Eastern Illinois Railway Company under section 77 of the Bankruptcy Act, has asked the Interstate Commerce Commission for authority to assume liability as guarantor for one-sixteenth of the interest and sinking fund installments on $10,610,000 of Terminal Railroad Association of St. Louis general mortgage four per cent bonds, which had been guaranteed by the old company.

DEKALB & WESTERN.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a branch line extending from Electric Mills Junction, Miss., to Electric Mills, 4.7 miles.

DELAWARE, LACKAWANNA & WESTERN.—*Repayment of Loans.*—This road has repaid bank loans of $850,000 and is reported to be negotiating for the repayment of a $2,000,000 debt to the Reconstruction Finance Corporation.

EAST ST. LOUIS JUNCTION.—*Lease of the St. Louis National Stockyards.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to lease the properties of the St. Louis National Stockyards Company used in loading and unloading livestock.

FORT DODGE, DES MOINES & SOUTHERN.—*Reorganization Plan.*—Judge C. A. Dewey of the federal district court at Des Moines, Iowa, on July 26 approved the reorganization plan for this road submitted by the Interstate Commerce Commission in March of this year. As described in the *Railway Age* of March 29, page 594, the plan would reduce total capitalization from $10,162,791 to $3,672,500 and eliminate entirely fixed income obligations. Equities of holders of both common and preferred stock were found to have no value and would not participate in the plan.

The Fort Dodge, Des Moines & Southern is a 150-mi. electric road handling freight traffic in direct interchange with steam roads. It was placed in the hands of trustees on November 10, 1939.

KANSAS CITY SOUTHERN.—*Note of the Fort Smith & Van Buren.*—The Fort Smith & Van Buren has asked the Interstate Commerce Commission for authority to issue a $208,000 four per cent note in favor of the Kansas City Southern. The note, which will mature April 1, 1950, and be secured by a mortgage on that portion of the Fort Smith & Van Buren's property extending from Coal Creek, Okla., to McCurtain, 20.9 miles, will be issued to the parent company, the K. C. S., as evidence of funds advanced by it to permit the subsidiary to purchase this property from the Fort Smith & Western.

MINNESOTA, DAKOTA & WESTERN.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon operations over a branch line owned by the International Lumber Company, and extending from Galvin Junction, Minn., to Brawley, 0.8 mile.

MISSOURI PACIFIC. — *Reorganization Managers.*—Five reorganization managers for the Missouri Pacific were named by the district court at St. Louis, Mo., on July 30, as follows: John W. Stedman, vice-president of the Prudential Life Insurance Company; Frederic W. Ecker, vice-president of the Metropolitan Life Insurance Company; Cassius M. Clay, assistant general counsel of the Reconstruction Finance Corporation; George E. Warren, vice-president of the Chase National Bank; and Daniel C. Borden, vice-president of the National City Bank. The managers will direct the execution of a tentatively approved plan of reorganization for the railroad but their activities will be limited to preliminary work pending final approval of the plan by the court.

NORFOLK SOUTHERN.—This company has asked the Interstate Commerce Commission for authority to extend one of its yard or industrial spur tracks at Brickhaven station, N. C., for about two miles in order that it can connect with the tracks of the Carolina Power & Light Company.

PACIFIC COAST. — *Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon that portion of its narrow-gage line extending in a general southerly direction from San Luis Obispo, Calif., to Los Alamos, 51.9 miles, together with a branch line extending easterly and southeasterly from Suey Junction, Calif., to Sisquoc, 12 miles.

PENNSYLVANIA. — *Abandonment.* — This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon its so-called Essler branch, extending from a connection with its Lyons Run branch near Saunders, Pa., to the end of the line, 2.7 miles.

SOUTHERN.—*Abandonment.* — Acting on this company's request, Division 4 of the Interstate Commerce Commission has dismissed, without prejudice, its application for authority to abandon a branch line in Spencer County, Ind. The case was docketed as Finance Docket No. 12288.

SOUTHERN PACIFIC.—*R. F. C. Loans.*—The Southern Pacific announced on July 31 that it had repaid $6,000,000 of a 4 per cent Reconstruction Finance Corporation loan, reducing the obligations outstanding to $7,000,000. The road has also arranged, subject to approval by the Interstate Commerce Commission, to borrow $20,000,000 from banks to repay this $7,000,000 R. F. C. indebtedness and to refinance present bank loans of $13,000,000 carrying an interest rate of 3½ per cent.

The new bank loans, to mature in equal quarterly installments over four years starting October 1, are secured by 120,000 shares of capital stock of Pacific Fruit Express, and carry interest rates of from 2 to 3¼ per cent, according to maturity, averaging slightly less than 3 per cent over the four-year period.

SOUTHERN PACIFIC.—*Notes.*—This company has asked the Interstate Commerce Commission for authority to issue $20,000,000 of serial, secured promissory notes, to be dated October 1, and to mature in equal quarterly installments over a period of four years, with interest rates ranging from two to 3¼ per cent. The proceeds of the notes will be used to pay off $7,000,000 loan from the Reconstruction Finance Corporation and $13,000,000 of 3½ per cent notes due on November 1 to a number of banks. The notes will be issued to the Guaranty Trust Company of New York, First National Bank of New York, Chemical Bank & Trust Company of New York, Union Trust Company of Pittsburgh, Wells Fargo Bank & Union Trust Company, Anglo California National Bank of San Francisco, Bank of California National Association, Farmers and Merchants National Bank of Los Angeles, and the Crocker First National Bank of San Francisco.

UNADILLA VALLEY.—*Acquisition.*—This company has asked the Interstate Commerce Commission for authority to acquire:

1. The New Berlin branch of the New York, Ontario & Western, extending from New Berlin Junction, N. Y., to New Berlin, 22.3 miles; and

2. A line of the Wharton Valley extending from New Berlin, N. Y., to Edmeston, 6.8 miles, together with any leasehold rights which the New York, Ontario & Western may have in the line.

The petition to the commission states that $25,000 in cash and a sum equal to one-half of the tax saving, if any, based on the difference between the 1939 and 1941 assessed valuations of the properties will be paid for the lines.

Average Prices of Stocks and Bonds

	Aug. 5	Last week	Last year
Average price of 20 representative railway stocks..	30.33	30.92	28.63
Average price of 20 representative railway bonds..	65.86	65.71	57.78

Dividends Declared

Alabama & Vicksburg.—Capital, 3 per cent, semi-annually, payable October 1 to holders of record September 8.

Cleveland & Pittsburgh.—Regular, 87½¢, quarterly; Special guaranteed, 50¢, quarterly, both payable September 2 to holders of record August 11.

Great Northern.—Preferred, 50¢, payable October 1 to holders of record September 5.

Vicksburg, Shreveport & Pacific.—Preferred, 2½ per cent; Common, 2½ per cent, both payable October 1 to holders of record September 8.

Railway Officers

FINANCIAL, LEGAL AND ACCOUNTING

S. J. W. Liddy, assistant to the comptroller of the Canadian Pacific, with headquarters at Montreal, Que., has been promoted to assistant comptroller, with the same headquarters.

J. F. Jeckel, auditor of miscellaneous accounts of the Delaware, Lackawanna & Western at New York, has been appointed auditor of disbursements, succeeding **Frank Wildey,** whose death on July 28 was reported in the *Railway Age* of August 2.

C. M. Dent has been appointed auditor of the Toronto, Hamilton & Buffalo, with headquarters at Hamilton, Ont., succeeding **Eugene A. Wigren,** who retired on July 31 under the pension rules of the company, after many years of service. **H. H. Wall** has been appointed assistant auditor.

Edward F. Lawson, assistant auditor of freight receipts for the Canadian Pacific, with headquarters at Montreal, Que., has been promoted to auditor of freight receipts, with the same headquarters, succeeding **J. Lummis,** who has retired under the company's pension regulations after 48 years of service. Mr. Lawson entered the service of the Canadian Pacific in 1902 as clerk in the West St. John freight office. During the next three years he served in the foreign freight offices at Fort William, West St. John, Montreal, Cranbrook, Fernie and Lethbridge. In 1906 Mr. Lawson returned to West St. John as cashier, and for the next two years divided his time between that point and the steamship offices at Quebec, Que. In 1908 he became agent in the freight offices at St. Henri and subsequently became assistant agent at Place Viger; freight agent at Hochelaga, and, in 1919,

Edward F. Lawson

local freight agent at Montreal. In 1921 he was appointed terminal freight accounting agent at Montreal, serving in that capacity until December, 1932, when he became central freight accounting agent. In April, 1937, he was appointed assistant auditor of freight receipts, the position he held until his recent promotion.

Mr. Lummis was born in September, 1876, and entered the service of the Canadian Pacific as clerk at Montreal. He then served successively as chief of interline accounts, head interline clerk, and acting chief clerk. Mr. Lummis was promoted to assistant auditor of freight receipts in January, 1933, and became auditor of freight receipts in April, 1937.

Harvey C. Couch Passes On

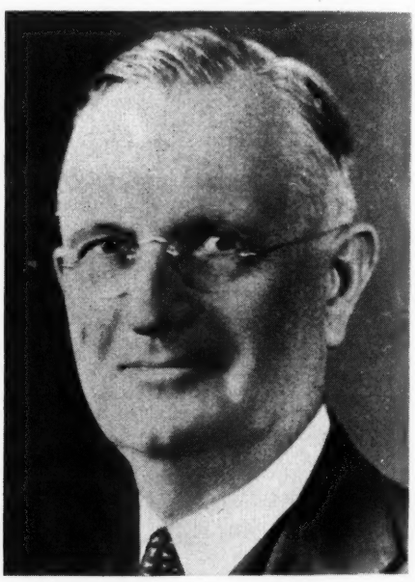
As reported in the *Railway Age* of August 2, Harvey C. Couch, chairman of the board and chairman of the executive committee of the Kansas City Southern, chairman of the board of the Louisiana & Arkansas, and former president of both roads, died at his home in Pine Bluff, Ark., on July 30, after an illness of several months. Mr. Couch has been well known for many years in the south and southwest for his activities as an organizer and executive in the utilities field, and more recently in the railway field. He has directed the policies of the Louisiana & Arkansas since 1928 and the policies of the Kansas City Southern since 1937.

Shortly after Mr. Couch assumed control of L. & A. in 1928, he began to plan for its consolidation with other lines to form a larger unified railroad system serving southern Arkansas, Louisiana and eastern Texas. Various plans were proposed and tentative efforts were made to secure approval of the acquisition of the Rock Island, Louisiana & Arkansas (comprising those lines of the Rock Island extending south from Little Rock, Ark., into Louisiana) and the Louisiana & North West. At this time Mr. Couch also directed his attention toward the Kansas City Southern and, under his leadership and planning, control of that road was obtained in 1937 and approval of the merger of the K. C. S. and L. & A. into one system was secured from the Interstate Commerce Commission on May 3, 1939.

The Kansas City Southern operates 879 miles of lines, confined primarily to a main line from Kansas City, Mo., to Port Arthur, Tex., the shortest route between Kansas City and the Gulf of Mexico. It is primarily a heavy-freight carrier, mostly of long haul traffic between Kansas City, Port Arthur and the Southwest. The merger with the Louisiana & Arkansas, which operates 811 miles of lines, the main stem of which extends from Shreveport, La., to New Orleans, provides a new route between Kansas City and New Orleans over which double-daily passenger service is provided, including the new streamlined Southern Belle, which operates intact between these two cities.

Mr. Couch was born in Calhoun, Ark., on August 21, 1877, and was educated at Southwestern Academy at Magnolia, Ark. He began his career as a fireman at a cotton gin, later clerking in a drug store. In 1897 he became a railway mail clerk and in 1904 he aided in the organization of the North Louisiana Telephone Company, which was sold to the Bell Telephone Company in 1912. In 1913 he organized and became president of the Arkansas Power & Light Co. In 1922 he organized and became president of the Mississippi Power & Light Co., and in 1925 he organized and became president of the Louisiana Power & Light Co., thus completing the network of power utilities he controlled. In January, 1928, he acquired control of the Louisiana & Arkansas railway and was elected president, later relinquishing that position, but continuing as chairman of the board. In 1937 Mr. Couch and his associates gained control of the K. C. S., and he was elected chairman of the board and chairman of the executive committee. On May 23, 1939, he was elected also president of the K. C. S., but two years later relinquished this position to his brother, Charles P. Couch, who is also president of the L. & A.

In addition to his activities in the utility and railroad fields, Mr. Couch had been active in many other directions. During the World War he served as Federal Fuel



Harvey C. Couch

Administrator for the state of Arkansas and in 1927 he served as a director of the Arkansas State Flood Commission and the American Red Cross. In 1932 he was appointed a member of the first board of directors of the Reconstruction Finance Corporation by President Hoover, from which position he resigned in 1934. He also served on the boards of several banking institutions, including the Chase National Bank of New York and the Eighth Federal Reserve Bank in St. Louis. In 1935 he served as a member of the Arkansas Drouth Relief Committee. Although Mr. Couch's interests were largely financial, from boyhood days railroads and railroad work held a fascination for him.

EXECUTIVE

John H. Mangold, whose election as vice-president in charge of traffic of the Elgin, Joliet & Eastern, with headquarters at Chicago, was reported in the *Railway*

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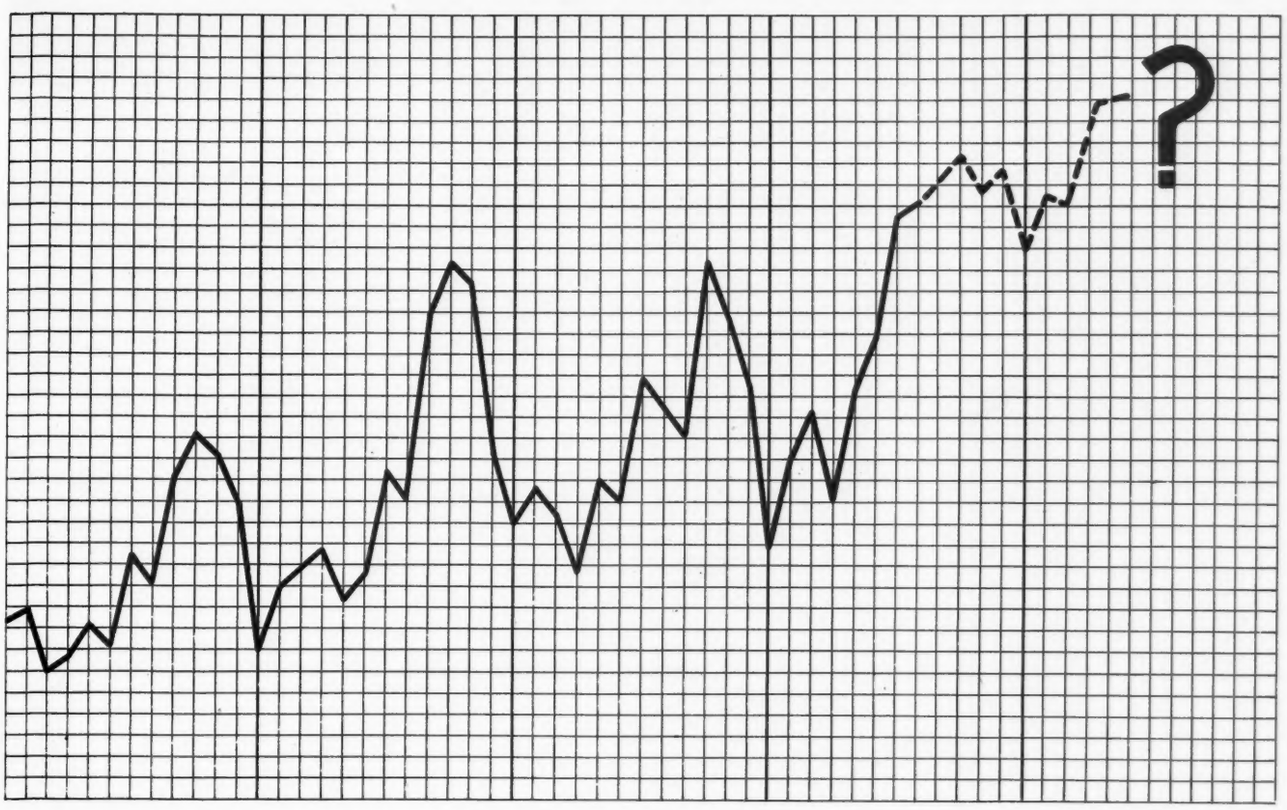

The Trend is Sharply Upward!

From January of 1938, through the middle of July 1941, the trend of revenue freight load has been definitely upward. Where it will stop no one can be sure, but to assure ample power the more conservative railroads are preparing for what they believe will be material increases by ordering new locomotives *now*.

LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO

LIMA LOCOMOTIVE WORKS INCORPORATED

Age of July 19, was born at Chicago on March 11, 1886, and after a public school and business college education, he took a

John H. Mangold

night course in law. Mr. Mangold's first railway experience was with the Pennsylvania, where he became a clerk in 1904, serving in various departments until 1911, when he resigned to enter the service of the Elgin, Joliet & Eastern. He was advanced through various positions in the traffic department until 1923, when he was promoted to general freight agent. On April 1, 1932, Mr. Mangold was promoted to traffic manager, the position he held until his recent promotion, effective July 15. Mr. Mangold is a past president of the Traffic Club of Chicago.

George H. Warfel, whose promotion to personnel assistant on the staff of the president of the Union Pacific, with headquarters at Omaha, Neb., was reported in the *Railway Age* of July 19, has been further advanced to assistant to the vice-president-operations, in charge of the labor relations department, with the same headquarters. Mr. Warfel was born at La-

George H. Warfel

doga, Ind., on March 28, 1884, and entered railway service on August 15, 1901, as a laborer in the signal department of the Union Pacific. He later became successively a batteryman, repairman and a maintainer. He resigned in August, 1904, to take charge of the electric light plant in Ladoga, and the following year he went with the Hall Signal Company, Chicago, as a gang foreman. On January 10, 1906, he returned to the Union Pacific as a signal maintainer at Point of Rocks, Wyo., and in June, 1907, he was promoted to district signal maintainer at Point of Rocks, Wyo. Mr. Warfel was appointed assistant roadmaster at Kearney, Neb., in March, 1910, and was promoted to roadmaster at that point in 1912. In May, 1926, he was promoted to general roadmaster, with headquarters at Kansas City, Mo., and in November of that year he was transferred to Omaha, Neb. On January 1, 1927, he was promoted to assistant to the general manager, in charge of safety, at Omaha, and in February, 1935, he was advanced to assistant superintendent of the Nebraska division, with headquarters at North Platte, Neb. Mr. Warfel was promoted to superintendent of the Wyoming division, with headquarters at Cheyenne, Wyo., in February, 1937. He was later appointed assistant superintendent at North Platte, and on March 14, 1939, he was appointed acting superintendent at Kansas City, a short time later being advanced to superintendent at Kansas City, the position he held until his recent promotion.

Clyde F. Farmer, whose appointment as assistant to president of the Delaware, Lackawanna & Western at New York was reported in the *Railway Age* of August 2,

Clyde F. Farmer

entered railroad service with the Baltimore & Ohio on September 1, 1909, in a clerical capacity at Newark, Ohio, remaining with that road until his recent appointment on the Lackawanna. Mr. Farmer was appointed division freight agent at Cleveland, Ohio, on June 1, 1920, and later served in a similar capacity at Akron and Youngstown. On June 1, 1928, he was appointed assistant general freight agent at Cleveland and on December 1, 1929, was appointed general freight agent at Baltimore. In April, 1931, he was appointed assistant freight traffic manager at St. Louis, Mo., and remained in that position until his appointment as freight traffic manager at Pittsburgh on January 1, 1937, the position he held until his recent appointment. During the World War Mr. Farmer served with the A. E. F. in France for 14 months.

William J. Eck, whose retirement as assistant to vice-president, signal and electrical, of the Southern, with headquarters at Washington, D. C., was reported in the *Railway Age* of July 26, was born at

William J. Eck

Pleasant Plain, Iowa, on July 10, 1876. He attended Pleasant Plain Academy, and was graduated from Iowa State College. He worked for the Automatic Electric Company from 1895 to 1899, when he entered the U. S. Army, 1st Colorado Volunteers, and from 1899 to 1902 he served in the U. S. Army Transport Service as chief electrician, S. S. McPherson and S. S. Kilpatrick. In 1902, he entered the service of the Chicago & North Western as a signal draftsman, and later was promoted to assistant signal engineer. In 1907, he went with the Southern as signal and electrical engineer, with headquarters in Washington, D. C., and in 1927 he was promoted to assistant to vice-president, signal and electrical department, with the same headquarters, the position he held until his retirement.

Lewis Clayton Walters, whose promotion to assistant to vice-president, signal and electrical, of the Southern, with headquarters at Washington, D. C., was

Lewis Clayton Walters

reported in the *Railway Age* of July 26, was born at Jamaica, N. Y., on January 23, 1891, and took a correspondence course in electrical engineering. Prior to entering the service of the Southern on July 13, 1913, Mr. Walters spent seven years with the General Railway Signal Company as follows: Office work, timekeeper, helper,

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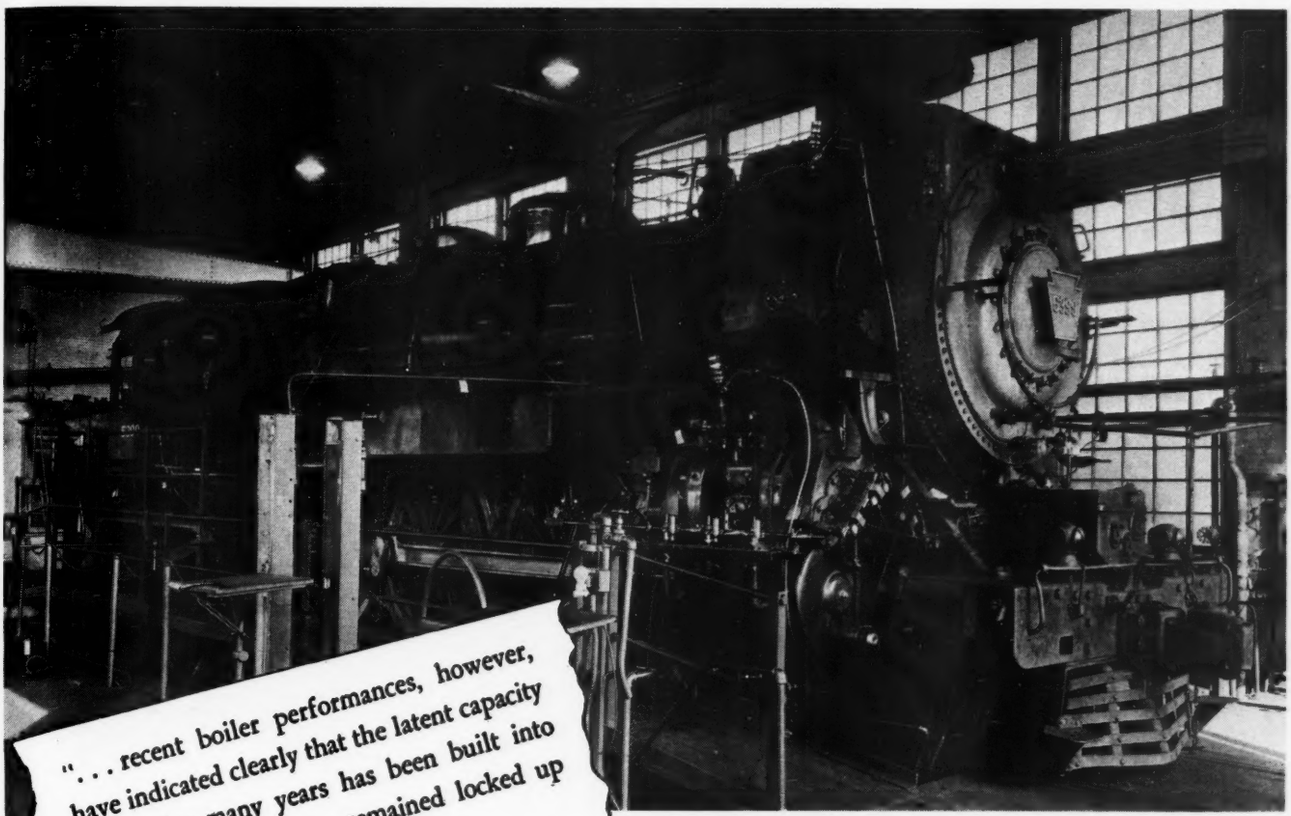
RELEASE THE LATENT POWER...



". . . recent boiler performances, however, have indicated clearly that the latent capacity which for many years has been built into locomotive boilers has remained locked up within them.

". . . the tests of the Pennsylvania poppet-valve locomotive No. 5399, with valves and steam passages designed to remove the restrictions in steam flow between the boiler and cylinders, are a demonstration of latent capacity seldom given an opportunity for service. This locomotive reached a maximum hourly output of 21 lb. of steam per sq. ft. of evaporative heating surface. It also showed a still further increase in locomotive capacity because of improvement of the steam distribution in the cylinders. The steam required to develop a horsepower-hour was reduced 13.8 per cent at 40 miles an hour and nearly 32 per cent at 100 miles an hour."

(Reprinted from RAILWAY AGE May 28, 1941.)

that lies dormant in *Your* locomotives

The steam locomotive is possessed of latent power which now can be released by The Franklin System of Steam Distribution. This system is the result of years of experimentation, research and road tests and is offered to the railroads as a means of increasing train speed and load capacity without increasing the size of the locomotive.

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assistant fitter, assistant wireman, wireman, assistant foreman and foreman. From the date mentioned above until the present he has been continuously employed in the signal department of the Southern. His first position was that of signal maintainer, and on March 6, 1914, he was promoted to general foreman. Four months later he was appointed assistant signal supervisor. Two years later he was promoted to signal supervisor, and, on December 1, 1918, he was appointed signal and electrical inspector. In June, 1920, he was promoted to signal and electrical engineer, Lines West, with headquarters at Cincinnati, Ohio. His title was changed to signal and electrical superintendent, Lines West, in 1927, the position he held until his recent promotion.

OPERATING

F. J. Mulligan, J. P. Allison and **R. H. Lewis** have been appointed trainmasters on the Erie, with headquarters at Marion, Ohio; Dunmore, Pa.; and Hornell, N. Y., respectively.

Robert Scott, director of insurance and safety of the Atlantic Coast Line, has been appointed director of safety, with headquarters as before at Wilmington, N. C. **A. C. James,** superintendent of insurance and safety, has been appointed superintendent of insurance, with headquarters as before at Wilmington.

In the *Railway Age* of August 2 it was erroneously reported that **A. C. Tosh** had been appointed general superintendent of the Central of New Jersey. Mr. Tosh is general superintendent of the Reading, while **M. L. McElheny** remains general superintendent of the Central of New Jersey.

G. J. Nash, assistant trainmaster on the Illinois Central at Markham yard (Chicago), has been promoted to trainmaster, with headquarters at Hawthorne, Ill., a newly created position. **J. M. Dawson,** assistant trainmaster at Congress street, Chicago, has been advanced to trainmaster, with headquarters at Markham yard, also a new position.

G. R. Van Eaton, assistant superintendent of telegraph of the South-Central district of the Union Pacific, has been promoted to superintendent of telegraph of that district, a change of title, with headquarters as before at Salt Lake City, Utah. **A. Robinson** has been appointed superintendent of telegraph of the Northwestern district, with headquarters at Portland, Ore., a newly created position.

Armin L. Tener, chief clerk to the general manager of the Northwestern district of the Union Pacific at Portland, Ore., has been promoted to assistant to the general manager in charge of labor and personnel, with the same headquarters. **H. A. McDaniel** has been appointed assistant superintendent at Pocatello, Idaho, succeeding **J. W. Myers,** whose promotion to superintendent of the Idaho division was reported in the *Railway Age* of August 2. **C. R. Kremer** has been appointed assistant superintendent at Laramie, Wyo., replacing **A. E. Stoddard,** whose promotion to superintendent of the newly created Utah division, with headquarters at Salt Lake City, Utah, was also reported in the *Railway Age* of August 2.

Charles L. Simpson, whose promotion, effective August 1, to general superintendent of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Minneapolis, Minn., was reported in the *Railway Age* of July 26, was born at Neenah, Wis., on April 3, 1881, and attended business college at Oshkosh, Wis. He entered railway service on June 12, 1899, as a station helper on the Wisconsin Central (now part of the Soo Line) at New Richmond, Wis., and later served as a telegraph operator and train dispatcher. In June, 1910, he was appointed chief clerk to the superintendent of transportation and on April 10, 1911, he was promoted to chief train dispatcher at Fond du Lac, Wis. On November 7, 1913, he was advanced to trainmaster on the Chicago division and ten years later he was promoted to assistant superintendent of the Chicago terminals. Mr. Simpson was transferred to the Minnesota division, with headquarters at Harvey, N. D., on May 1, 1926, and on January 1, 1927, he was promoted to superintendent of the Missouri River division, with headquarters at Bismarck, N. D. He was later transferred to Superior, Wis., and then to Stevens Point, Wis., being located at the latter point until his recent promotion.

Garret C. White, whose appointment as superintendent of the Buffalo and Rochester divisions of the Erie at Buffalo, N. Y., was reported in the *Railway Age* of July 19, was born on January 24, 1907, at

Garret C. White

Midland Park, N. J. Mr. White entered railroad service on November 5, 1925, with the Erie and served as clerk until January, 1929, when he became secretary to general manager. In December, 1933, he was appointed chief clerk to superintendent, becoming inspector of transportation in June, 1937. He was appointed inspector of operation in February, 1938, and became trainmaster in June, 1939, the position he held until his recent appointment.

J. A. Trudel, assistant superintendent of the Laurentides division of the Canadian National, with headquarters at Quebec, Que., has been promoted to superintendent of the Cochrane division, with headquarters at Cochrane, Ont., succeeding **R. B. Corrigan,** who has been transferred to the Levis division, with head-

J. A. Trudel

quarters at Levis, Que. Mr. Corrigan succeeds **A. L. Currie,** who has retired on pension because of ill health, after many years of service.

Mr. Trudel was born at Nicolet, Que., and entered railroad service in April, 1907, at Chaudiere Junction in the freight department of the Canadian Government railways. After various promotions he was appointed assistant superintendent at Quebec in 1912, later being transferred to the Levis and Saguenay divisions. In 1932 he became assistant superintendent of the Laurentides division, the position he held until his recent appointment.

Mr. Currie was born in May, 1878, at L'Andoise, N. S., and entered railroad service in July, 1901, with the Cape Breton railway. From June, 1902, to August, 1929, Mr. Currie served with the Quebec, Montreal & Southern and Napierville Junction as general superintendent and secretary. From August, 1929, to January, 1939, he was assistant superintendent of the Canadian National at Levis, Que., and from January to September, 1939, he was superintendent of the Cochrane division at Cochrane, Ont., becoming superintendent of the Levis division in September, 1939; the position he held until his retirement.

L. T. Andrews, passenger car clerk in the office of the superintendent of transportation of the Atlantic Coast Line, with headquarters at Jacksonville, Fla., has been promoted to transportation assistant at Wilmington, N. C.

Jesse Francis Lewis, whose promotion to superintendent of the Kansas division of the Union Pacific, with headquarters at Kansas City, Mo., was reported in the *Railway Age* of July 19, was born at Hollenberg, Kan., on July 16, 1889, and attended Baptist College, Washington, Kan., for one year. He entered railway service on October 10, 1906, as an agent and operator on the St. Joseph & Grand Island (now part of the Union Pacific) at Seneca, Kan., and served as an agent and operator at various points until September 24, 1916, when he was promoted

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NO. 146 OF A SERIES OF FAMOUS ARCHES OF THE WORLD

STONE ARCH BRIDGE
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This pastoral scene is not laid far out in the remote fastness of the country but is situated in the heart of New York City in Central Park. The arch bridge which spans a portion of the lake in the park is made of natural stone and is quite in keeping with the rustic natural surroundings that are such a relief to the millions of New Yorkers who see this bridge every year.

The Security Sectional Arch was not designed to be a thing of beauty but was designed primarily for utility and economy. 32 years ago the American Arch Company engineers introduced the first Security Sectional Arch. This was the first step in the standardization of arch brick sizes and shapes and this initial design which has been improved upon to keep pace with modern locomotives is today the standard of American railroads.

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to train dispatcher at St. Joseph, Mo. On November 19, 1920, he was promoted to night chief dispatcher at Marysville, Kan.,

Jesse Francis Lewis

and six years later he was advanced to day chief dispatcher. On December 1, 1937, he was promoted to trainmaster at Marysville and on June 18, 1940, he was transferred to Kansas City. Mr. Lewis was promoted to assistant superintendent at Kansas City on June 9, 1941, the position he held until his recent promotion effective July 1.

Herbert E. Bixler, whose appointment as superintendent of freight transportation of the New York, New Haven & Hartford at New Haven, Conn., was reported in the *Railway Age* of August 2, was born at New London, Conn., on June 10, 1911. He entered railroad service in June, 1936,

Herbert E. Bixler

as a car service inspector and three months later was promoted to transportation inspector. On May 16, 1937, Mr. Bixler was promoted to merchandise inspector, the position he held until his recent promotion.

Raymond C. Randall, whose appointment as general manager of the Eastern district of the Erie, with headquarters at Jersey City, N. J., was reported in the *Railway Age* of July 19, was born at De Graff, Ohio, on September 18, 1889. After a public school and business college education, Mr. Randall entered railway service with the Erie on April 1, 1906, as clerk at Marion, Ohio. He was promoted to assistant yardmaster at Marion in April, 1912, and in 1917 he became assistant general yardmaster, being further advanced to general yardmaster the following year. In May, 1922, he was transferred to Hammond, Ind., and in November, 1926, he was promoted to trainmaster of the Chicago division, being further advanced to assistant superintendent at Chicago two years later. In October, 1928, Mr. Randall went to Jersey City as assistant superintendent of terminals, being promoted to superintendent of terminals in 1929. On June 1, 1934, he became superintendent of the Wyoming-Jefferson division at Dunmore, Pa., and on October 1, 1935, again became superintendent of terminals at Jersey City. He was appointed assistant gen-

Raymond C. Randall

eral manager of the Western district at Youngstown, Ohio, in February, 1938, being transferred to the Eastern district at Jersey City on July 1, 1939. Mr. Randall became assistant to vice-president in charge of operations at Cleveland, Ohio, in November, 1939, the position he held until his recent appointment.

George Voelkner, whose promotion to general manager of the Lehigh Valley at Bethlehem, Pa., was reported in the *Railway Age* of August 2, was graduated from Armour Institute, Chicago, as an electrical engineer. He also was graduated from

George Voelkner

the Taylor School of Efficiency and from a mechanical engineering course of the International Correspondence School. Mr. Voelkner first did research work in the laboratories of the Western Electric Company and entered railroad service in June, 1908, as an oiler in the mechanical department of the Chicago & Western Indiana, then serving as switchboard operator at Chicago, foreman in charge of electrical maintenance and general foreman in charge of electrical construction and maintenance, all with the Chicago & Western Indiana. From 1912 to 1914 he was in charge of all electrical work at the Clearing yard for the Belt Railway of Chicago, then under construction, and in 1915 became chief electrician and was later placed in charge of the signal department of that road. From November, 1933, to June 1, 1937, Mr. Voelkner was supervisor of telegraph and telephones for the Chicago & Western Indiana and the Belt Railway of Chicago and on the latter date he was appointed assistant superintendent of the Chicago & Western Indiana, becoming superintendent of that road in September, 1938. In January, 1940, he was appointed assistant to general manager of the Lehigh Valley at Bethlehem, Pa., becoming general superintendent a few months later and assistant general manager in November, 1940, the position he held until his recent appointment.

TRAFFIC

W. E. Ridgeway, assistant manager-operating department and general agent of the traffic department at Galveston, Tex., for the Southern Pacific's Morgan Line, has been appointed general passenger agent in charge of solicitation of the Southern Pacific Lines in Texas and Louisiana, a newly created position, with headquarters at Houston, Tex.

Charles W. Workman, perishable freight agent for the Atchison, Topeka & Santa Fe at Chicago, has been appointed assistant manager of the refrigerator department, with the same headquarters, a newly created position, and **Clarence O. Bunce,** traveling freight agent at Cincinnati, Ohio, has been promoted to perishable freight agent at Chicago, succeeding Mr. Workman.

George A. McNicholl, general passenger agent of the Canadian National, with headquarters at Vancouver, B. C., has retired under the company's pension rules, after 52 years of service. Mr. McNicholl entered railroad service on April 1, 1889, as an apprentice with the Grand Trunk at Montreal in the office of the general auditor, later transferring to the office of the assistant general manager. In 1885 he entered the passenger department, later becoming secretary in the general traffic manager's office and the third vice-president's office. In 1907 he became purchasing agent for the Grand Trunk Pacific at Vancouver and three years later he went to Prince Rupert, B. C., as superintendent, alter conducting an extensive survey of traffic possibilities of the Yukon and Alaska. After serving in various capacities Mr. McNicholl became general passenger agent in 1923, with headquarters at Vancouver, the position he held until his retirement.

Perry Monroe Shoemaker, whose ap-

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Many locomotives built just a few years ago have difficulty meeting present-day operating conditions due to lack of steaming capacity at speed.

For these locomotives the Elesco exhaust steam injector offers a simple, inexpensive means of increasing capacity.

By utilizing a part of the exhaust steam, the Elesco exhaust steam injector returns heat otherwise wasted — and increases the boiler capacity by just that much.

Operated as simply as the ordinary injector, the Elesco exhaust steam injector increases the earning capacity of any locomotive to which it is applied.

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pointment as transportation assistant of the Delaware, Lackawanna & Western at New York was reported in the *Railway Age* of May 31, was born at Elmira, N. Y., on July 15, 1906, and was graduated from the University of Michigan with a bachelor of science degree in 1928. Subsequently he was awarded the Strathcona Fellowship in the school of transportation and engineering of Yale University, by which he was awarded the degree of master of science. While studying at the University of Michigan, Mr. Shoemaker was employed during the summers of 1926 and 1927 as a track laborer by the Pennsylvania. Following graduation he served as dynamometer assistant of the Erie. From 1929 to 1932 he was station laborer, freight checker, terminal yardmaster and general yardmaster of the Erie. He entered the service of the New York, New Haven & Hartford in 1934 as research assistant, subsequently becoming superintendent of transportation, which position he held until his appointment as transportation assistant of the Lackawanna.

A. H. Farrar, general freight agent of the Baltimore & Ohio, with headquarters at Philadelphia, Pa., has been appointed

A. H. Farrar

freight traffic manager, with headquarters at Pittsburgh, Pa., succeeding **Clyde F. Farmer,** whose appointment as assistant to president of the Delaware, Lackawanna & Western at New York was reported in the *Railway Age* of August 2. **J. W. Phipps, Jr.,** assistant general freight agent of the Baltimore & Ohio at Cleveland, Ohio, succeeds Mr. Farrar as general freight agent at Philadelphia.

Mr. Farrar was born at St. Louis, Mo., on December 31, 1892, and attended grade and high schools in that city. He entered the service of the Baltimore & Ohio in St. Louis in April, 1920, as freight representative. On June 1, 1926, he was appointed district freight representative at Tulsa, Okla., and on September 1, 1930, he became division freight agent at St. Louis, being transferred to Akron, Ohio, on August 16, 1933. Mr. Farrar was appointed assistant general freight agent at Cleveland, Ohio, on January 1, 1937, and became general freight agent at Philadelphia on January 1, 1939, the position he held until his recent appointment as freight traffic manager.

Mr. Phipps was born at Towson, Md., on October 8, 1895, and was educated in the public schools of Towson and was graduated from a Baltimore business college. He entered the service of the Baltimore & Ohio on September 2, 1914, as clerk in the stationery department at Baltimore, later holding positions as steno-

J. W. Phipps, Jr.

rapher and secretary in the general freight office at Chicago, in the general superintendent's office at New York, in the police and industrial departments at Pittsburgh and in the general freight offices at Chicago and Baltimore. Mr. Phipps was furloughed for military service on April 17, 1918, serving in France with the 79th division for eleven months. Returning to the Baltimore & Ohio on March 16, 1920, Mr. Phipps was appointed traveling industrial agent at Pittsburgh and on May 15, 1924, became industrial agent at St. Louis, going to Baltimore, Md., as division freight agent on April 1, 1931. He was appointed assistant general freight agent at Washington, D. C., on January 1, 1937, and was transferred to Cleveland on January 1, 1939, which position he held until his recent appointment.

Harry L. Schaeffer, whose promotion to assistant passenger traffic manager on the Missouri Pacific, with headquarters at St. Louis, Mo., was reported in the *Rail-*

Harry L. Schaeffer

way Age of August 2, was born at St. Louis on March 12, 1902, and attended Brown's Business College and Benton College of Law at St. Louis, graduating from the latter in 1925. He entered railway service in April, 1916, as a messenger boy on the Missouri Pacific at St. Louis and was later advanced to office boy and clerk-stenographer at that point. In August, 1919, he went with the Missouri-Kansas-Texas as a clerk-stenographer at Wichita Falls, Tex., and four months later he was promoted to secretary to the superintendent at Sedalia, Mo. In March, 1920, Mr. Schaeffer returned to the Missouri Pacific as secretary to the district engineer at St. Louis, later serving as secretary to the contract attorney, and assistant secretary to the general manager. In December, 1923, he was advanced to chief clerk to the passenger traffic manager and in August, 1927, he was promoted to assistant general passenger agent at St. Louis. Mr. Schaeffer was transferred to Kansas City, Mo., in February, 1935, where he was located until his recent promotion.

S. Grover Grace, general freight agent for the Chicago, Milwaukee, St. Paul & Pacific at Chicago, has been promoted to assistant freight traffic manager, with the same headquarters, succeeding **Owen T. Cull,** whose death on July 16 was report-

S. G. Grace

ed in the *Railway Age* of July 19. **Earl J. Hyett,** assistant to the freight traffic manager, has been advanced to general freight agent, relieving Mr. Grace, and **J. J. Landrigan,** chief clerk in the office of the assistant freight traffic manager at Chicago, has been promoted to assistant general freight agent, with the same headquarters.

Mr. Grace was born in Chicago on January 27, 1886, and attended Armour Institute of Technology. He entered railway service in 1909 as a junior clerk in the general freight department of the Milwaukee at Chicago, later serving successively as tariff and rate clerk and as chief clerk. In the spring of 1925, Mr. Grace was promoted to assistant general freight agent at Chicago and in May, 1938, he was further advanced to general freight agent, the position he held until his recent promotion.

Mr. Hyett took an extension course in law and commerce at Seattle, Wash. He entered railway service in 1905 as a station helper on the Pennsylvania at Collinsville, Ill., and in 1908 was transferred to the general office of the traffic department at St. Louis, Mo. In 1912 he went

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Reduce Operating Costs

EVERY search for reductions in the cost of locomotive operation has emphasized the necessity for more complete applications of HUNT-SPILLER *Air Furnace* GUN IRON wear-resisting parts.

Railroads have discovered that the locomotives which are completely equipped cost less to maintain, handle their trains better, consume less fuel and turn in higher monthly revenue mileage.

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HUNT-SPILLER *Air Furnace* GUN IRON

with the Milwaukee in the general freight department at Seattle and in 1921 he was transferred to Chicago, later serving as

Earl J. Hyett

chief clerk to the traffic manager and chief clerk to the vice-president in charge of traffic. On July 1, 1935, Mr. Hyett was promoted to assistant to the freight traffic manager in charge of commerce work for the traffic department, which position he held until his recent promotion, effective August 1.

ENGINEERING & SIGNALING

Peter V. Thelander, assistant engineer in the office of the engineer of maintenance of the Chicago & North Western, has been promoted to division engineer of the Peninsula division, with headquarters at Escanaba, Mich., succeeding **S. S. Long,** who has been transferred to the Lake Shore division, with headquarters at Green Bay, Wis. Mr. Long relieves **J. A. Dyer,** who retired on August 1.

F. W. Pfleging, signal engineer of the Union Pacific System, has been promoted to general signal engineer, with headquarters as before at Omaha, Neb. **D. C. Bettison,** assistant signal engineer, Eastern district, has been advanced to signal engineer, Eastern district, with headquarters as before at Omaha, Neb. **R. C. Charlton,** supervisor of signals at Portland, Ore., has been promoted to signal engineer of the Northwestern district, with the same headquarters, and **T. W. Hays,** assistant signal engineer of the Northwestern and the South-Central districts, has been advanced to signal engineer of the South-Central district, with headquarters as before at Salt Lake City, Utah.

N. C. Pearson, division engineer on the Union Pacific at Kansas City, Mo., has been promoted to district engineer of the Northwestern district with headquarters at Portland, Ore., succeeding to a portion of the duties of **W. C. Perkins,** district engineer of both the Northwestern and South-Central districts, who continues as district engineer of the South-Central district, with headquarters at Salt Lake City, Utah. **R. M. Jolley,** assigned to the office of the chief engineer at Omaha, Neb., has been appointed division engineer at Kansas City, Mo., replacing Mr. Pearson.

T. L. Pidcock, assistant engineer on the Idaho division, has been promoted to division engineer of the newly created Utah division, with headquarters at Salt Lake City. **W. R. Keay,** roadmaster at Pocatello, Idaho, has been promoted to general roadmaster, with headquarters at Los Angeles, Cal., a newly created position.

MECHANICAL

E. J. Kuhn, chief draftsman in the office of the chief mechanical officer of the Missouri-Kansas-Texas, has been promoted to mechanical engineer, a new position, with headquarters as before at Parsons, Kan.

W. G. Knight, mechanical superintendent, Bangor & Aroostook, with headquarters at Derby, Me., who holds a commission as Colonel in the Officers Reserve Corps, United States Army, has been called to active service with his regiment, and assigned to duty in the First Corps Area at Boston, Mass. **O. L. Dean,** shop superintendent at Derby, has been appointed acting mechanical superintendent.

OBITUARY

L. A. North, retired master mechanic on the Illinois Central, died on July 30.

E. W. Jansen, retired electrical engineer on the Illinois Central, died on July 23.

Frank D. Austin, general coal and coke agent of the Erie, with headquarters at Chicago, died suddenly of a heart attack at his home in Highland Park, Ill., on July 29. Mr. Austin entered railway service in 1892 as a telegrapher on the Erie at Callicoon, N. Y., later being transferred to the traffic department and being promoted through various positions to general coal freight agent at New York. In January, 1925, he was promoted to freight traffic manager, with headquarters at Chicago, and in December, 1928, he was appointed general coal and coke agent, with the same headquarters.

Henry H. Lee, former treasurer of the Pennsylvania and later president of Pennroad Corporation, died at Peekskill (N. Y.) hospital on July 30 of a cerebral hemorrhage, at the age of 60. Mr. Lee was born on November 3, 1880, at Pawtucket, R. I., and entered railway service on May 1, 1898, as clerk with the Pennsylvania at Philadelphia, serving successively as chief clerk and assistant treasurer. He was treasurer of the Pennsylvania from July, 1924, until 1929, becoming president of Pennroad Corporation, a holding company organized by P. R. R. officers, in the latter year. Mr. Lee retired last May because of ill health.

Frederic N. Melius, who was assistant general manager of the New York Central at New York before he became president of the United States Freight Company, died of coronary thrombosis on July 31 at his home in Scarsdale, N. Y., at the age of 64. Mr. Melius was born on December 13, 1876, at Hudson, N. Y., and entered railroad service in 1890 as a messenger for the New York Central at Albany, N. Y. Serving successively with that road as call boy, clerk, car agent, assistant general yardmaster, assistant trainmaster, trainmaster, assistant division superintendent, division superintendent, assistant manager of the marine department, general superintendent of the New York terminal district and general superintendent and marine manager, he became assistant general manager early in 1930. In November, 1930, Mr. Melius became president and director of the United States Freight Company and several other storage and forwarding companies in the United States and Canada.

* * *

Photo Courtesy Canadian National

New Motor Trucks for War Service Are Handled in Gondolas Crated Double-Deck by the Canadian National

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1941

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1941	Net railway operating income 1940
Akron, Canton & Youngstown	June	171	$258,758	$62	$271,704	$36,767	$22,296	$14,370	$72,127	$155,172	57.1	$116,532	$80,392	$60,288	$18,667
	6 mos.	171	1,419,730	230	1,489,160	171,539	137,953	84,223	401,899	854,474	57.4	634,686	471,010	369,565	189,169
Alton	June	959	1,253,820	330,874	1,823,003	222,829	273,671	47,120	645,494	1,265,494	69.4	557,485	458,138	266,334	—7,835
	6 mos.	959	6,625,799	1,497,885	9,430,296	1,082,571	1,491,893	277,301	3,667,299	6,956,097	73.8	2,474,199	1,866,826	768,286	—306,832
Atchison, Topeka & Santa Fe System	June	13,431	16,438,332	1,994,978	19,733,952	2,489,547	3,597,212	486,370	6,170,153	13,138,680	66.6	6,595,272	3,562,942	3,346,274	1,627,076
	6 mos.	13,431	79,311,955	10,120,410	97,282,276	13,139,610	20,320,603	2,898,028	33,418,560	72,048,887	74.1	25,233,389	13,865,310	13,847,475	4,473,812
Atlanta & West Point	June	93	144,948	28,799	196,612	20,834	30,008	8,935	73,960	144,504	73.5	52,108	29,692	13,436	—7,738
	6 mos.	93	813,053	178,150	1,136,421	114,165	170,249	52,998	438,146	842,374	74.1	294,047	178,033	78,507	—29,683
Western of Alabama	June	133	138,639	28,553	189,910	25,153	34,561	8,254	68,682	146,287	77.0	43,623	21,362	19,065	9,707
	6 mos.	133	785,293	182,041	1,088,578	147,174	204,726	49,796	397,832	858,313	78.8	230,265	112,024	101,466	43,509
Atlanta, Birmingham & Coast	June	639	346,938	16,719	381,925	48,939	59,743	24,780	146,145	294,463	77.1	87,462	60,215	30,578	—38,544
	6 mos.	639	1,816,181	205,031	2,146,970	309,908	350,895	149,147	851,017	1,760,953	82.0	386,017	236,347	46,494	—149,650
Atlantic Coast Line	June	5,095	4,174,586	713,595	5,230,953	473,401	923,763	150,140	1,821,321	3,553,553	67.9	1,677,400	1,077,400	815,947	—206,223
	6 mos.	5,097	25,061,532	6,809,904	34,778,814	2,761,540	5,572,166	1,005,145	11,973,046	22,736,293	65.4	12,042,521	8,292,521	6,884,634	1,143,051
Charleston & Western Carolina	June	343	296,228	4,425	306,783	27,940	35,202	9,261	84,715	163,183	53.2	143,600	103,600	97,100	15,829
	6 mos.	343	1,626,041	13,512	1,673,326	162,354	212,894	56,613	489,710	955,918	57.1	717,408	502,408	471,834	201,909
Baltimore & Ohio	June	6,369	17,052,609	1,308,095	19,342,077	1,771,354	4,125,659	447,143	6,027,708	12,996,729	67.2	6,345,348	5,290,942	4,939,565	2,840,614
	6 mos.	6,378	92,301,420	6,455,206	104,361,261	9,575,407	23,937,466	2,512,784	34,265,698	73,876,581	70.8	30,484,680	24,350,143	22,255,043	12,376,162
Staten Island Rapid Transit	June	24	81,306	72,530	163,674	14,150	22,463	996	77,861	126,865	77.5	36,809	10,587	1,769	—14,707
	6 mos.	24	410,876	404,625	870,220	80,919	130,089	6,595	472,510	759,273	87.3	110,947	—42,297	—94,928	—147,969
Bangor & Aroostook	June	603	292,318	19,300	332,295	91,691	82,009	4,840	93,710	292,317	88.0	39,978	10,474	46,430	374
	6 mos.	603	3,047,002	115,466	3,274,677	512,772	537,132	30,359	798,704	2,015,909	61.6	1,258,768	871,076	523,973	770,198
Bessemer & Lake Erie	June	216	2,229,157	744	2,240,770	129,551	366,298	12,442	282,811	824,779	36.8	1,415,991	996,954	1,079,662	948,399
	6 mos.	218	8,775,088	4,193	8,850,217	768,865	2,090,526	73,749	1,408,846	4,548,648	51.4	4,301,569	2,941,298	3,440,093	2,152,370
Boston & Maine	June	1,906	3,849,963	669,777	5,070,097	588,813	676,222	67,541	1,669,669	3,141,574	62.0	1,928,523	1,348,116	1,040,095	685,351
	6 mos.	1,906	21,099,096	3,700,412	27,850,528	3,185,967	3,789,403	399,577	10,056,499	18,389,708	66.0	9,460,820	6,599,887	4,967,049	2,879,254
Burlington, Rock Island	June	251	79,032	26,130	113,817	17,735	16,126	4,586	44,433	93,073	81.8	20,744	11,250	7,466	—19,562
	6 mos.	254	423,962	120,863	593,866	101,246	89,181	27,038	261,253	539,831	90.9	54,035	—2,293	—33,049	—75,174
Cambria & Indiana	June	37	176,920	.....	177,011	14,910	58,111	451	15,719	94,634	53.46	82,377	12,155	85,175	45,090
	6 mos.	37	862,732	.....	863,355	51,506	364,561	2,659	84,021	538,108	62.33	325,247	41,597	414,125	479,314
Canadian Pacific Lines in Maine	June	234	154,753	20,860	190,674	50,180	53,202	6,678	73,986	189,814	99.5	860	—13,714	—35,912	—16,621
	6 mos.	234	2,087,220	89,282	2,261,111	193,157	372,287	39,187	752,458	1,392,377	61.6	868,734	789,258	618,755	447,106
Canadian Pacific Lines in Vermont	June	91	120,206	6,712	137,952	24,859	22,821	2,220	73,889	126,709	91.9	11,243	3,889	—18,216	—53,988
	6 mos.	91	569,778	40,850	673,358	87,683	137,339	13,320	434,121	690,775	102.6	—17,417	—59,318	—187,525	—245,569
Central of Georgia	June	1,863	1,515,951	160,136	1,814,074	195,859	299,452	55,055	654,938	1,291,329	71.2	522,745	400,757	390,665	—78,874
	6 mos.	1,863	8,302,725	974,387	10,263,767	1,104,763	1,800,845	330,825	3,869,929	7,624,214	74.3	2,639,553	1,916,232	1,763,432	—4,118
Central of New Jersey	June	711	3,338,609	394,057	3,939,411	351,205	711,285	51,437	1,373,870	2,587,234	65.7	1,352,177	960,645	774,665	91,225
	6 mos.	711	16,958,572	2,106,198	20,253,386	1,844,452	4,426,580	272,046	7,774,564	14,870,896	73.4	5,382,490	2,884,065	1,810,141	506,024
Central Vermont	June	422	622,342	26,033	690,096	86,428	76,799	11,629	242,026	435,548	63.1	254,548	226,841	186,541	44,764
	6 mos.	422	3,357,735	177,232	3,757,375	403,442	544,824	67,694	1,477,147	2,603,196	69.3	1,154,179	996,119	720,782	346,911
Chesapeake & Ohio	June	3,124	13,283,655	393,934	14,204,811	1,120,305	2,067,450	208,251	2,865,086	6,591,713	46.4	7,613,098	4,854,159	4,892,895	3,528,291
	6 mos.	3,120	62,009,018	2,071,867	66,343,761	6,617,158	12,259,253	1,240,734	15,309,261	37,234,382	56.1	29,109,379	18,625,742	19,007,107	19,977,084
Chicago & Eastern Illinois	June	925	1,127,845	190,292	1,490,305	178,953	262,204	57,460	551,690	1,123,356	75.4	366,949	246,949	119,073	1,576
	6 mos.	925	6,949,377	966,292	8,907,550	979,432	1,516,010	350,744	3,256,457	6,506,230	73.0	2,401,320	1,811,320	1,038,573	34,096
Chicago & Illinois Midland	June	131	449,228	686	473,103	53,934	61,172	20,276	94,774	249,822	52.8	223,281	148,907	143,747	143,091
	6 mos.	131	2,214,911	3,839	2,323,407	249,166	367,377	129,972	559,004	1,420,633	61.1	902,774	590,591	568,786	538,568
Chicago & North Western	June	8,308	7,409,161	1,319,277	9,591,288	1,249,336	1,664,212	199,257	3,175,587	6,626,936	69.1	2,964,352	2,145,573	1,901,100	964,315
	6 mos.	8,317	38,521,164	5,916,740	49,545,956	6,278,751	9,075,372	1,168,836	18,237,452	36,699,443	74.1	12,846,513	8,498,238	7,292,554	892,023
Chicago, Burlington & Quincy	June	8,958	7,477,916	927,353	9,408,854	1,425,360	1,733,184	272,125	3,044,720	6,796,411	72.2	2,612,443	1,259,788	1,016,291	—88,733
	6 mos.	8,958	41,480,736	4,741,216	51,779,408	6,990,081	9,094,970	1,523,493	17,983,066	37,381,354	72.2	14,398,054	9,007,094	7,335,282	2,202,886
Chicago Great Western	June	1,502	1,532,841	70,207	1,717,275	214,236	229,095	59,036	578,697	1,136,224	66.2	581,051	414,356	249,596	11,391
	6 mos.	1,502	9,028,456	310,182	10,002,619	1,119,232	1,403,813	366,808	3,564,221	6,795,980	67.9	3,206,639	2,378,360	1,271,368	258,146
Chicago, Indianapolis & Louisville	June	549	758,256	32,400	864,209	104,105	144,186	27,724	275,133	581,564	67.3	282,645	241,350	156,838	85,203
	6 mos.	549	4,372,274	229,757	5,030,390	472,294	923,789	163,050	1,701,968	3,455,791	68.7	1,574,599	1,303,631	770,507	525,115

Continued on second left-hand page

15
NEW YORK CENTRAL SYSTEM
NEW YORK CENTRAL
3006

More POWERFUL MOHAWKS To Come

DURING the past year the New York Central strengthened its great fleet of locomotives with 50 new powerful Mohawks, the last word in fast, high speed freight engines. Thirty-five were Alco-built. These powerful locomotives, constructed to operate at 80 miles per hour and develop a cylinder horsepower of about 4400 at 50 miles per hour are turning in such "swell" performances that the Central has ordered fifteen more. With improved boiler design, high pressures, large capacity tenders, water scooping apparatus, better lubrication, these locomotives make possible a more intensive utilization of power, with longer engine runs, and higher mileage records per month. High horsepower output in the high speed range permits heavier train loads at fast schedules and there is always a big margin of power available for additional cars.

AMERICAN LOCOMOTIVE COMPANY

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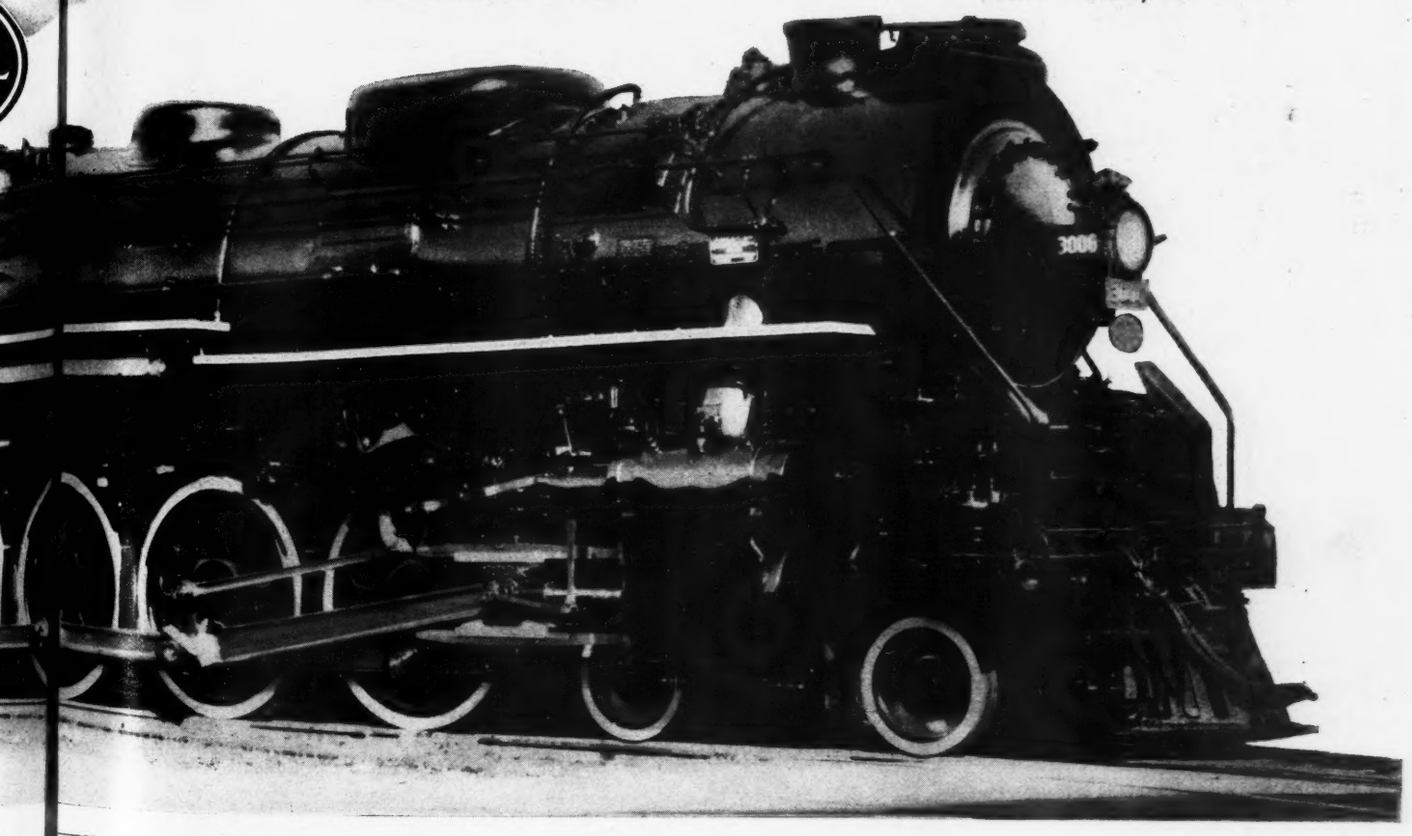

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1941—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1941	Net railway operating income 1940
Chicago, Milwaukee, St. Paul & Pacific	June	10,855	$9,484,448	$897,726	$11,526,354	$2,318,673	$1,845,832	$250,554	$3,751,685	$8,575,957	74.4	$2,950,397	$2,181,397	$1,699,143	—$154,527
	6 mos.	10,855	51,866,667	4,330,316	62,107,133	8,576,141	10,588,504	1,362,769	21,584,155	44,470,614	71.6	17,636,519	13,210,519	11,132,386	3,023,475
Chicago, Rock Island & Pacific	June	7,944	6,798,165	966,791	8,327,514	1,277,123	1,311,682	275,780	2,735,388	5,937,354	71.3	2,390,160	1,891,181	1,506,899	360,697
	6 mos.	7,961	36,277,382	5,149,929	44,786,027	5,180,485	7,636,676	1,615,748	15,635,825	32,082,506	71.6	12,703,521	9,747,127	7,692,202	1,545,117
Chicago, St. Paul, Minneapolis & Omaha	June	1,629	1,365,023	164,698	1,658,480	246,980	268,638	41,410	661,412	1,287,076	77.6	371,404	258,118	144,361	—108,063
	6 mos.	1,629	7,564,611	777,015	8,984,542	1,097,014	1,540,692	237,644	3,981,361	7,253,290	80.7	1,731,252	1,053,723	426,162	—519,352
Clinchfield Railroad	June	308	969,831	4,276	980,170	54,184	123,850	19,993	164,803	382,526	39.0	597,644	520,392	527,215	204,598
	6 mos.	308	5,297,945	27,331	5,361,465	267,565	747,456	119,192	949,666	2,190,461	40.9	3,171,004	2,708,992	2,746,712	1,967,136
Colorado & Southern	June	759	542,219	46,399	639,117	141,822	124,399	14,882	225,797	533,806	83.5	105,311	43,823	18,833	—161,971
	6 mos.	776	3,080,730	247,923	3,716,826	562,476	706,752	80,541	1,304,886	2,816,803	75.8	900,023	504,913	353,318	—60,653
Fort Worth & Denver City	June	804	432,771	47,865	560,497	88,611	83,359	18,854	177,826	402,985	71.9	157,512	119,958	80,679	20,573
	6 mos.	804	2,167,326	278,163	2,878,770	384,616	476,356	110,801	997,377	2,159,937	75.0	718,833	500,842	290,007	184,903
Colorado & Wyoming	June	42	92,164	.....	137,743	21,897	12,154	917	41,581	80,990	58.79	56,753	29,324	28,549	21,615
	6 mos.	42	517,148	.....	805,133	57,667	66,834	3,793	261,221	415,856	51.64	389,277	220,435	217,051	197,091
Columbus & Greenville	June	168	105,237	3,111	114,716	16,553	20,324	4,912	35,311	89,837	78.3	24,879	12,584	13,579	—15,632
	6 mos.	168	571,976	17,722	627,012	83,614	100,636	29,834	209,573	502,009	80.1	125,003	56,915	64,367	9,274
Delaware & Hudson	June	849	2,776,737	60,723	2,930,563	312,892	501,333	50,019	897,796	1,846,499	63.0	1,084,064	866,314	825,829	489,017
	6 mos.	849	14,375,578	410,814	15,303,922	1,596,829	2,852,616	252,533	5,240,684	10,462,739	68.4	4,841,183	3,838,113	3,546,022	2,437,170
Delaware, Lackawanna & Western	June	995	4,286,362	534,844	5,363,495	351,740	879,692	114,493	1,985,714	3,441,938	64.2	1,921,557	1,245,357	1,184,895	636,057
	6 mos.	995	22,832,143	3,127,313	28,820,855	1,629,959	5,145,970	671,179	11,855,996	20,168,975	70.0	8,651,880	5,524,380	5,286,112	2,856,241
Denver & Rio Grande Western	June	2,547	2,050,126	195,457	2,368,960	336,857	551,840	91,569	788,637	1,881,442	79.4	487,518	279,037	282,016	21,926
	6 mos.	2,548	11,363,368	764,153	12,754,857	1,681,989	3,546,882	506,664	4,575,599	10,871,942	85.2	1,882,915	646,192	548,650	—123,648
Denver & Salt Lake	June	232	104,254	4,142	117,786	40,891	41,413	2,719	46,895	141,772	120.4	—23,986	—48,930	3,943	—7,798
	6 mos.	232	814,019	29,146	898,750	176,638	253,459	15,994	325,679	829,974	92.4	68,776	—81,046	210,529	352,647
Detroit & Mackinac	June	242	74,046	2,328	83,331	17,400	10,723	948	26,833	59,282	71.1	24,049	20,728	14,495	941
	6 mos.	242	280,179	13,880	345,215	63,000	67,098	5,615	148,016	302,492	87.6	42,723	22,504	1,096	—628
Detroit & Toledo Shore Line	June	50	328,684	.....	329,507	31,706	24,863	8,536	82,675	155,234	47.1	174,273	122,754	63,551	41,689
	6 mos.	50	2,122,144	.....	2,127,206	168,831	146,178	52,131	522,933	934,399	43.9	1,192,807	877,294	501,558	473,352
Detroit, Toledo & Ironton	June	472	714,692	246	742,614	56,734	102,236	12,748	156,647	347,995	46.9	394,619	269,622	252,268	100,093
	6 mos.	472	4,517,811	1,312	4,697,623	331,229	602,645	75,535	973,756	2,101,271	44.7	2,596,352	1,817,584	1,607,209	1,319,972
Duluth, Missabe & Iron Range	June	542	3,908,281	1,796	4,532,313	246,493	244,942	4,489	631,938	1,171,546	25.8	3,360,767	2,616,922	2,617,330	2,111,357
	6 mos.	542	10,957,218	12,267	12,681,770	1,183,774	1,479,642	25,948	2,232,298	5,125,040	40.4	7,556,730	4,173,397	4,155,523	1,756,009
Duluth, Winnipeg & Pacific	June	175	138,016	837	141,801	28,322	19,522	2,040	50,175	104,531	73.7	37,270	25,988	13,432	9,107
	6 mos.	175	784,817	5,986	809,547	142,559	122,057	12,049	325,501	625,575	77.3	183,972	120,214	17,813	—9,320
Elgin, Joliet & Eastern	June	390	2,168,217	5	2,457,311	184,877	327,327	15,871	746,406	1,320,317	53.7	1,136,994	791,275	625,025	453,362
	6 mos.	390	12,230,752	16	13,968,416	1,015,775	1,950,794	91,779	4,584,537	7,889,974	56.5	6,078,442	4,282,514	3,349,208	1,800,602
Erie	June	2,257	8,182,445	433,703	9,231,880	784,734	1,472,330	185,537	3,012,765	5,715,081	61.9	3,516,799	2,380,426	2,009,129	1,148,392
	6 mos.	2,260	44,237,397	2,236,231	49,582,422	3,608,037	8,601,650	1,096,673	17,805,841	32,722,001	66.0	16,860,421	12,116,233	10,166,391	5,138,110
Florida East Coast	June	685	402,276	139,256	617,349	132,808	157,512	28,531	241,164	612,791	99.3	4,558	—56,891	—92,249	—161,164
	6 mos.	685	3,541,921	2,558,911	6,852,402	749,615	974,184	190,465	2,205,475	4,567,161	66.7	2,285,241	1,835,594	1,372,239	1,142,402
Georgia Railroad	June	329	353,529	33,498	411,608	51,498	64,769	18,299	152,591	301,729	73.3	109,879	93,667	95,589	50,540
	6 mos.	329	2,101,413	142,142	2,404,189	258,762	389,088	113,221	925,362	1,771,892	73.7	632,297	536,443	547,998	266,936
Georgia & Florida	June	408	110,650	1,967	116,139	25,172	18,743	8,422	42,045	99,731	85.9	16,408	8,257	1,890	—5,184
	6 mos.	408	630,068	8,393	661,377	142,666	106,891	53,171	241,868	576,450	87.2	84,927	37,425	—774	—70,617
Grand Trunk Western	June	1,029	2,387,735	100,000	2,686,570	301,419	444,645	39,453	890,052	1,722,593	64.1	963,977	831,832	695,976	264,977
	6 mos.	1,029	13,818,264	465,161	15,269,264	1,534,270	2,542,180	230,948	5,527,995	10,226,088	67.0	5,043,176	4,248,696	3,496,395	1,794,891
Canadian National Lines in New England	June	172	119,580	3,147	130,928	58,499	14,878	2,237	56,805	138,996	106.2	—8,068	—24,211	—62,747	—61,533
	6 mos.	172	774,010	15,308	920,770	212,724	114,307	15,949	388,577	793,616	86.2	127,154	30,295	—252,534	—340,991
Great Northern	June	8,074	9,599,678	560,694	11,144,055	1,593,586	1,581,606	239,559	2,745,885	6,553,428	57.8	4,700,627	3,301,492	3,287,974	2,332,994
	6 mos.	8,069	43,883,212	2,151,209	50,168,227	7,131,463	9,233,045	1,245,471	15,172,720	34,306,445	68.4	15,861,782	10,275,850	9,952,992	6,649,709
Green Bay & Western	June	234	155,962	255	163,059	38,871	19,158	8,671	45,846	118,445	72.6	44,614	25,100	14,507	—3,498
	6 mos.	234	935,538	1,650	967,576	179,958	101,238	51,279	294,337	658,630	68.0	308,946	211,056	154,483	97,637
Gulf & Ship Island	June	259	95,215	6,670	109,842	25,948	22,267	2,566	52,113	106,464	96.9	3,378	—14,069	—24,991	—26,051
	6 mos.	259	693,348	77,409	830,367	129,314	120,385	17,107	335,740	630,154	75.9	200,213	96,011	26,975	—101,906

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1941—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1941	1940
Gulf, Mobile & Ohio	June	1,973	$1,817,412	$49,279	$1,957,343	$258,772	$322,860	$83,426	$532,714	$1,288,704	65.8	$668,639	$432,639	$334,245	$38,573
	6 mos.	1,973	10,361,653	274,906	11,083,238	1,472,623	1,720,560	506,081	3,208,681	7,471,629	67.4	3,611,609	2,347,109	1,735,526	638,283
Illinois Central	June	4,951	7,869,393	873,615	9,457,687	1,143,089	2,187,458	198,383	3,130,749	7,015,779	74.2	2,441,908	1,688,514	1,684,478	572,910
	6 mos.	4,950	46,879,103	5,378,174	56,619,262	5,858,405	12,024,551	1,268,196	19,298,533	40,500,937	71.5	16,118,325	11,558,903	11,618,885	5,126,949
Yazoo & Mississippi Valley	June	1,570	1,404,305	103,620	1,593,283	152,489	231,998	30,796	523,054	987,399	62.0	605,884	457,337	403,336	22,445
	6 mos.	1,589	7,339,921	412,191	8,265,416	801,691	1,259,585	196,407	3,112,135	5,653,999	68.4	2,611,417	1,731,526	1,452,923	729,782
Illinois Central System	June	6,521	9,273,698	977,235	11,050,970	1,295,578	2,419,456	229,179	3,653,803	8,003,178	72.4	3,047,792	2,143,822	2,095,727	605,268
	6 mos.	6,539	54,219,024	5,790,365	64,884,678	6,660,096	13,284,136	1,464,603	22,410,668	46,154,936	71.1	18,729,742	13,277,780	13,123,285	5,910,209
Illinois Terminal	June	477	456,745	63,768	583,014	66,056	72,763	18,166	174,877	352,265	60.42	230,749	163,394	142,635	104,098
	6 mos.	477	2,537,393	378,016	3,221,462	331,339	432,703	104,975	1,052,509	2,031,305	63.06	1,190,157	837,838	701,906	535,498
Kansas City Southern	June	879	1,200,667	102,050	1,440,501	159,264	247,571	54,958	415,947	928,067	64.4	512,434	385,434	287,491	245,502
	6 mos.	879	7,256,950	352,005	8,378,478	802,197	1,302,291	330,485	2,405,022	5,196,745	62.0	3,181,733	2,501,733	2,023,075	1,641,378
Kansas, Oklahoma & Gulf	June	328	200,552	387	203,039	14,620	12,040	8,836	42,786	87,222	43.0	115,817	91,165	72,025	60,343
	6 mos.	328	1,183,504	2,344	1,200,025	81,975	61,142	52,221	265,253	521,762	43.5	678,263	335,857	432,115	398,870
Lake Superior & Ishpeming	June	156	328,492	50	399,904	37,462	26,307	583	54,711	126,527	31.6	273,377	187,038	190,705	243,668
	6 mos.	156	1,287,507	403	1,552,355	162,139	169,682	3,586	250,570	628,415	40.5	923,940	575,640	599,697	298,793
Lehigh & Hudson River	June	96	192,477	.....	193,566	17,860	26,700	3,739	49,856	104,375	53.9	89,191	57,382	45,302	11,344
	6 mos.	96	1,021,008	.....	1,027,560	107,301	166,020	22,406	294,748	627,311	61.0	400,249	250,793	182,529	102,447
Lehigh & New England	June	190	538,199	.....	541,525	38,164	66,269	7,547	137,510	265,141	49.0	276,384	192,791	190,879	107,877
	6 mos.	190	2,348,272	.....	2,366,588	189,825	375,878	43,820	713,141	1,414,924	59.8	951,664	655,426	690,181	550,830
Lehigh Valley	June	1,269	4,661,934	167,944	5,086,709	423,973	720,584	108,673	1,751,595	3,149,587	61.9	1,937,122	1,423,160	1,162,260	715,850
	6 mos.	1,269	24,130,052	980,772	26,610,846	2,005,557	4,047,408	637,951	10,110,908	17,595,177	66.1	9,015,669	6,816,134	5,414,552	3,013,025
Louisiana & Arkansas	June	881	744,394	30,941	802,044	130,728	100,590	29,275	201,313	493,907	61.6	308,137	226,703	167,507	113,368
	6 mos.	881	4,538,339	132,046	4,853,329	764,963	578,386	174,286	1,182,745	2,878,515	59.3	1,974,814	1,443,144	1,064,973	763,719
Louisville & Nashville	June	4,803	9,105,684	661,059	10,268,084	939,562	1,921,494	180,905	3,101,079	6,408,665	62.4	3,859,419	2,182,215	2,444,359	1,386,290
	6 mos.	4,856	47,800,019	4,020,713	55,085,705	5,466,954	10,985,364	1,099,189	17,621,955	36,852,262	66.9	18,233,443	10,638,968	11,491,037	7,777,681
Maine Central	June	991	1,016,965	109,150	1,229,184	166,721	205,308	11,681	387,818	808,920	65.8	420,264	268,550	244,682	195,052
	6 mos.	991	6,312,763	455,980	7,327,061	889,751	1,175,053	66,388	2,455,059	4,790,689	65.4	2,536,372	1,805,502	1,476,507	1,060,712
Midland Valley	June	352	97,036	6	99,260	16,900	11,857	2,361	31,259	68,193	68.7	31,067	20,252	14,507	5,676
	6 mos.	352	609,266	28	620,961	77,148	60,177	14,326	181,823	370,732	59.7	250,229	185,432	138,419	134,675
Minneapolis & St. Louis	June	1,409	838,650	12,672	889,003	178,046	135,010	51,242	288,510	694,226	78.1	194,777	143,923	96,705	42,499
	6 mos.	1,409	4,580,033	66,078	4,852,392	854,939	803,303	300,777	1,690,496	3,875,492	79.9	976,900	701,190	466,475	218,719
Minneapolis, St. Paul & Sault Ste. Marie	June	4,271	2,821,075	100,002	3,174,448	501,556	408,986	64,464	1,047,528	2,137,459	67.3	1,036,989	752,444	666,963	357,960
	6 mos.	4,270	13,894,057	385,423	15,445,081	2,464,288	2,468,851	376,288	5,995,325	11,883,873	76.9	3,561,208	2,209,210	1,653,817	849,092
Duluth, South Shore & Atlantic	June	550	257,555	7,574	288,269	64,235	36,919	6,975	84,513	199,069	69.1	89,200	72,978	66,183	73,393
	6 mos.	550	1,306,532	42,508	1,460,031	327,919	229,013	43,273	506,872	1,145,582	78.5	314,449	220,982	203,982	95,668
Spokane International	June	152	89,669	1,059	97,226	18,829	6,282	2,372	24,461	55,399	57.0	41,827	36,251	31,517	6,677
	6 mos.	152	391,592	3,788	436,994	107,384	39,173	13,602	133,580	315,383	72.2	121,611	89,610	67,295	18,581
Mississippi Central	June	158	89,708	1,271	92,065	20,797	10,582	7,642	21,380	64,573	70.1	27,492	21,943	16,238	—22,045
	6 mos.	158	559,203	19,265	588,205	136,730	70,112	46,187	134,316	412,138	70.1	176,067	128,238	93,027	—32,872
Missouri & Arkansas	June	365	100,729	1,279	106,837	25,524	12,095	7,904	34,896	86,394	80.9	20,443	16,197	5,321	—63
	6 mos.	365	615,109	8,250	667,464	158,697	71,712	45,506	217,276	524,631	78.6	142,833	116,394	51,517	37,553
Missouri-Illinois	June	193	208,661	159	211,158	37,579	26,762	3,175	48,220	122,431	58.0	88,727	46,011	32,206	33,192
	6 mos.	193	1,197,916	1,111	1,208,603	165,367	131,357	19,158	294,143	640,187	53.0	568,416	368,399	295,615	250,186
Missouri-Kansas-Texas Lines	June	3,293	2,429,332	239,924	2,901,367	431,242	466,475	106,290	1,001,895	2,129,563	73.4	771,804	557,462	331,415	120,265
	6 mos.	3,293	12,661,418	1,234,210	15,304,479	2,161,448	2,503,580	642,224	5,642,719	11,693,869	76.4	3,610,610	2,556,607	1,389,381	401,443
Missouri Pacific	June	7,138	7,552,647	625,903	8,906,784	1,192,144	1,594,500	245,573	2,812,422	6,147,321	69.0	2,759,463	2,254,913	1,825,102	198,222
	6 mos.	7,144	41,835,270	3,672,058	49,771,080	6,363,254	8,940,970	1,486,499	16,821,258	35,224,972	70.8	14,546,108	11,546,381	9,185,475	2,696,059
Gulf Coast Lines	June	1,772	1,052,026	49,370	1,166,487	202,003	201,271	43,238	394,095	900,913	77.2	265,574	189,161	126,971	69,353
	6 mos.	1,772	7,778,345	260,489	8,479,265	1,203,762	1,129,065	262,301	2,542,920	5,467,291	64.5	3,011,974	2,545,373	1,837,877	1,588,540
International Great Northern	June	1,155	984,614	95,915	1,195,220	174,706	201,593	28,229	435,688	902,568	75.5	292,652	226,858	165,242	902
	6 mos.	1,155	5,342,391	498,588	6,537,230	1,010,296	1,154,779	172,659	2,554,773	5,229,704	80.0	1,307,526	923,281	485,059	—236,681
Monongahela	June	172	550,196	441	552,836	44,625	34,650	455	113,964	196,756	35.6	356,080	309,979	211,092	113,271
	6 mos.	172	2,509,119	3,337	2,524,982	211,302	175,721	2,932	572,298	981,628	38.9	1,543,354	1,277,416	803,613	756,081

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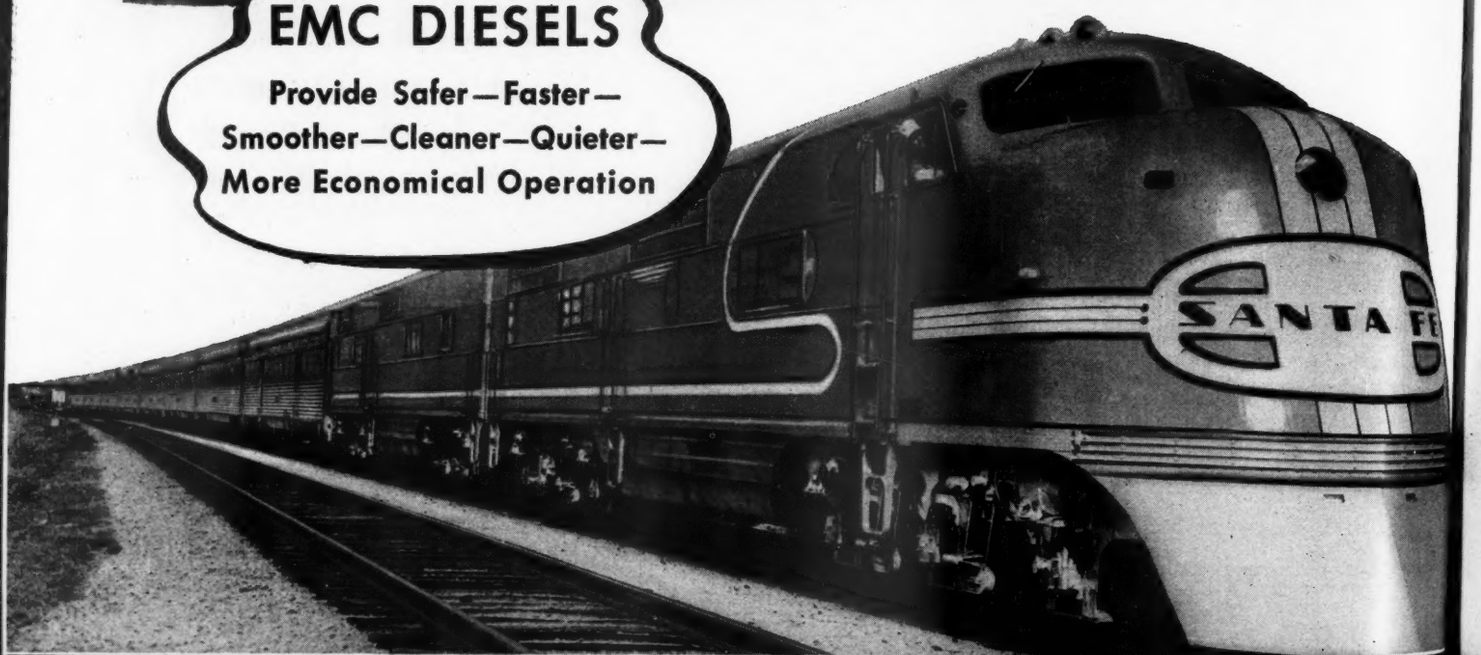

ELECTRO-MOTIVE

SUBSIDIARY OF GENERAL MOTORS

ating Economies

NSION

THE displacement of steam power with Diesels has been a natural process of evolution. As a result of careful studies by operating officials, the initial applications of Diesel power were made where the greatest immediate savings could be realized. Gradually and thoughtfully, similar applications have been continually extended during the past six years, until today EMC Diesels are operating in switching, transfer, freight and passenger service, with marked reductions in operating costs, higher availability, faster schedules, increased traffic and over-all improvement of rail transportation. Now that Diesel power has definitely proved its superiority in all classes of service, the time is rapidly approaching when railroads will be able to realize the extended economies which naturally follow the complete Dieselization of an entire railroad or section of railroad, such as fewer locomotives required — reduced locomotive service and repair facilities — fewer stops for fuel and water — reduced water treatment costs — reduced damage to rails and roadbed—reduced repairs and reinforcement of bridges.

GENERAL MOTORS
LOCOMOTIVES

E CORPORATION
LA GRANGE, ILLINOIS, U. S. A.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1941—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1941	Net railway operating income 1940
Montour	June	51	$245,393	$22	$247,714	$20,835	$45,428	$700	$50,368	$123,993	50.1	$123,721	$76,482	$102,386	$68,354
	6 mos.	51	1,014,527	97	1,023,654	69,100	257,329	4,342	256,798	626,186	61.2	397,468	213,006	361,334	396,138
Nashville, Chattanooga & St. Louis	June	1,111	1,298,033	161,665	1,596,112	154,397	275,885	68,144	562,205	1,120,676	70.2	475,436	320,482	282,099	82,881
	6 mos.	1,111	7,576,748	823,543	9,253,685	924,011	1,535,102	414,034	3,357,874	6,586,858	71.2	2,666,827	1,795,810	1,561,591	761,656
Nevada Northern	June	165	57,288	667	62,923	9,053	2,476	1,289	11,398	30,517	48.5	32,406	10,741	12,832	10,843
	6 mos.	165	313,835	3,619	345,320	53,696	21,007	7,500	65,339	186,045	53.9	159,275	82,207	95,078	132,586
New York Central	June	10,942	28,404,190	5,910,723	38,170,509	4,184,530	7,364,109	580,535	12,918,304	26,391,097	69.1	11,779,412	6,608,293	5,364,622	3,160,024
	6 mos.	10,943	156,571,689	30,769,236	208,658,449	21,271,884	42,939,703	3,248,520	75,082,502	150,354,340	72.1	58,304,109	35,226,471	27,905,928	15,624,933
Pittsburgh & Lake Erie	June	232	2,584,960	44,897	270,773	247,627	688,258	36,400	694,657	1,754,766	64.9	949,007	438,142	777,609	607,971
	6 mos.	232	12,899,783	265,794	13,547,905	1,148,456	4,178,182	220,598	3,900,173	9,949,858	73.4	3,598,047	1,518,814	3,509,401	2,023,150
New York, Chicago & St. Louis	June	1,704	4,774,617	77,091	4,970,965	471,190	603,898	122,652	1,425,153	2,744,602	55.2	2,226,363	1,628,316	1,303,231	400,243
	6 mos.	1,704	26,491,117	409,144	27,590,874	2,364,009	3,643,778	719,327	8,625,848	16,100,742	58.4	11,490,132	8,910,367	6,926,241	3,143,321
New York, New Haven & Hartford	June	1,852	5,859,832	2,635,469	9,308,994	1,107,159	1,379,727	136,977	3,086,800	6,104,298	65.6	3,204,696	2,489,696	1,688,192	517,614
	6 mos.	1,851	31,434,366	13,968,351	49,971,925	5,668,368	7,785,047	691,587	17,890,896	34,406,062	68.9	15,565,863	11,923,363	7,609,354	2,584,837
New York Connecting	June	21	399,672	.....	412,225	54,090	10,801	.....	34,388	100,711	24.4	311,514	265,679	300,241	125,766
	6 mos.	21	2,162,903	.....	2,232,488	276,158	58,992	.....	203,263	547,008	24.5	1,685,480	1,412,465	1,598,211	624,155
New York, Ontario & Western	June	576	487,704	34,886	577,347	57,494	107,196	19,065	268,632	471,673	81.7	105,674	61,143	29,266	—53,756
	6 mos.	576	2,517,342	77,713	2,881,082	302,297	594,585	106,744	1,527,308	2,653,248	92.1	227,834	—35,050	—237,605	—501,212
New York, Susquehanna & Western	June	144	297,211	26,742	338,558	24,426	29,231	2,065	115,718	182,789	54.0	155,769	125,995	88,811	47,701
	6 mos.	144	1,596,738	162,025	1,854,929	125,709	155,571	14,016	708,773	1,065,274	57.4	789,654	611,747	379,317	247,113
Norfolk & Western	June	2,191	10,239,482	316,392	10,805,540	980,732	1,812,920	149,769	1,986,136	5,150,884	47.7	5,654,656	2,971,532	3,255,566	2,918,556
	6 mos.	2,191	52,006,583	1,814,082	55,278,427	5,642,910	11,677,841	886,970	11,483,297	30,941,951	56.0	24,336,476	13,347,123	14,938,957	16,365,650
Norfolk Southern	June	733	472,253	4,866	489,589	77,650	55,118	23,677	158,390	334,682	68.4	154,907	122,457	98,350	110,472
	6 mos.	733	2,436,916	25,713	2,545,439	459,008	327,318	146,701	884,066	1,949,086	76.6	596,353	404,029	277,982	8,496
Northern Pacific	June	6,719	5,803,422	531,967	6,888,966	841,123	1,283,496	195,788	2,192,009	4,818,562	70.0	2,070,404	1,335,213	1,701,595	808,791
	6 mos.	6,719	30,268,697	2,019,501	35,227,658	4,322,075	7,246,122	1,016,437	12,053,029	26,309,910	74.7	8,917,748	5,048,822	7,127,025	4,402,078
Northwestern Pacific	June	352	250,736	9,419	276,334	57,895	49,270	2,693	112,631	247,288	89.5	29,046	10,483	—3,900	—26,087
	6 mos.	352	1,337,729	73,886	1,519,869	370,315	274,883	16,249	734,863	1,511,630	99.5	8,239	—114,549	—204,860	—349,756
Oklahoma City-Ada-Atoka	June	132	26,519	.....	27,123	4,912	538	691	8,214	15,569	57.4	11,554	9,288	5,387	—1,824
	6 mos.	132	134,813	Cr.5	137,456	26,762	6,641	4,029	49,313	94,850	69.0	42,606	28,366	7,190	—12,237
Pennsylvania	June	10,246	41,988,143	7,377,863	53,571,905	5,820,127	11,773,635	754,981	17,506,201	37,236,856	69.5	16,335,049	10,602,418	10,051,057	7,211,793
	6 mos.	10,246	214,244,132	41,467,331	278,137,615	28,457,165	63,332,811	4,302,195	97,257,334	201,453,044	72.4	76,684,571	45,801,232	42,471,878	36,305,465
Long Island	June	379	794,121	1,530,016	2,445,805	227,244	372,245	8,069	960,220	1,623,002	66.4	822,803	404,093	209,713	247,052
	6 mos.	379	4,358,120	7,577,362	12,605,446	1,261,372	2,079,730	49,311	5,714,262	9,352,145	74.2	3,251,301	1,532,198	457,269	—108,778
Pennsylvania-Reading Seashore Lines	June	410	406,861	270,361	711,467	90,793	84,865	8,385	327,561	527,379	74.1	184,088	86,952	—26,946	—130,363
	6 mos.	411	2,012,549	827,771	3,000,582	535,252	606,533	42,246	1,769,540	3,043,824	101.4	43,242	—547,514	—1,064,646	—1,250,760
Pere Marquette	June	2,102	3,092,779	100,829	3,382,924	415,227	616,393	65,619	1,121,998	2,325,558	68.7	1,057,366	709,871	589,582	7,132
	6 mos.	2,102	17,692,979	477,855	19,102,312	2,223,659	3,618,716	385,181	6,597,352	13,434,952	70.3	5,667,360	3,897,215	3,242,012	1,709,937
Pittsburg & Shawmut	June	98	96,998	.....	97,260	13,136	16,539	1,635	22,008	57,379	59.0	39,881	37,293	32,139	35,617
	6 mos.	98	465,690	.....	467,520	69,047	106,465	11,251	122,824	335,094	71.7	132,426	117,134	81,972	139,895
Pittsburgh & West Virginia	June	136	446,864	.....	464,142	77,128	67,967	19,576	93,836	278,616	60.0	185,526	141,539	142,244	77,352
	6 mos.	136	2,370,904	189	2,488,152	416,957	424,232	111,391	507,793	1,587,337	63.8	900,815	715,314	743,837	454,968
Pittsburg, Shawmut & Northern	June	190	132,915	.....	133,823	18,161	16,340	1,036	40,880	82,489	61.6	51,334	45,295	33,157	—128
	6 mos.	190	689,225	.....	694,672	87,389	96,833	6,335	222,828	449,053	64.6	245,619	211,829	152,368	98,429
Reading	June	1,438	6,240,074	280,448	6,803,509	682,192	1,269,055	69,619	2,181,966	4,350,043	63.9	2,453,466	1,478,654	1,460,071	1,050,391
	6 mos.	1,438	33,842,173	1,761,662	37,233,450	2,964,312	7,407,616	422,412	12,968,703	24,629,090	66.1	12,604,360	8,506,664	7,970,395	5,883,122
Richmond, Fredericksburg & Potomac	June	118	669,601	336,534	1,113,569	95,765	169,922	8,967	331,904	654,990	58.8	458,579	306,287	234,404	76,762
	6 mos.	118	3,585,748	2,430,681	6,802,843	540,819	1,009,382	56,157	2,184,534	4,136,341	60.8	2,666,502	1,835,776	1,351,313	476,105
Rutland	June	407	239,310	24,022	319,777	40,187	60,200	10,154	141,548	263,194	82.3	56,583	40,345	38,313	—17,187
	6 mos.	407	1,310,970	144,575	1,793,116	201,611	361,684	62,334	928,972	1,626,320	90.7	166,796	57,446	58,696	—107,378
St. Louis-San Francisco	June	4,769	4,312,534	516,695	5,207,276	628,313	987,256	123,015	1,703,027	3,634,912	69.8	1,572,364	1,224,138	1,119,804	559,161
	6 mos.	4,769	23,090,013	2,169,432	27,469,200	3,416,539	5,512,175	731,371	9,678,435	20,406,771	74.3	7,062,429	5,059,274	5,098,226	935,528
St. Louis, San Francisco & Texas	June	159	135,888	1,590	142,894	26,213	16,441	8,458	56,348	113,027	79.1	29,867	21,422	—8,713	10,126
	6 mos.	159	790,458	6,905	827,408	138,274	89,016	49,146	326,345	633,241	76.5	194,167	144,711	1—7,659	—145,765

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1941	1940
St. Louis, San Francisco & Texas	6 mos.	159	790,458	6,905	827,408	138,274	89,016	49,146							
St. Louis Southwestern Lines	June	1,617	$2,195,513	$66,328	$2,336,176	$445,515	$282,429	$84,499	$619,955	$1,516,576	64.9	$819,600	$450,465	$294,850	$231,816
	6 mos.	1,627	12,006,976	298,446	12,728,403	1,618,350	1,744,625	508,604	3,484,194	7,833,412	61.5	4,894,991	3,956,821	3,032,282	1,295,546
Seaboard Air Line	June	4,310	4,058,818	801,611	5,199,404	844,031	958,913	180,538	1,768,792	3,967,884	76.3	1,231,520	961,520	856,006	9,354
	6 mos.	4,310	22,958,618	5,975,894	31,471,543	4,262,968	5,580,072	1,128,100	10,875,904	23,346,869	74.2	8,124,674	6,079,674	5,020,214	2,178,633
Southern Railway	June	6,567	9,498,656	1,203,338	11,424,666	1,190,818	1,905,003	169,684	3,518,848	7,141,995	62.5	4,282,671	2,861,879	2,632,156	1,350,448
	6 mos.	6,567	53,584,791	6,052,180	64,064,550	6,768,251	10,518,843	1,050,795	20,294,317	40,729,243	63.6	23,335,307	16,514,247	14,817,278	8,479,504
Alabama Great Southern	June	315	715,190	116,036	884,767	88,317	182,208	18,528	241,516	554,383	62.7	330,384	167,648	180,792	116,174
	6 mos.	315	4,059,427	544,875	4,934,123	529,003	1,031,621	95,145	1,412,810	3,219,695	65.3	1,714,428	1,023,008	1,000,102	704,705
Cincinnati, New Orleans & Texas Pacific	June	337	1,660,676	133,174	1,875,038	172,922	365,881	28,961	434,323	1,055,453	56.3	819,585	508,454	545,767	368,327
	6 mos.	337	9,224,356	931,091	10,688,074	1,016,741	2,041,066	181,977	2,596,897	6,176,065	57.8	4,512,009	2,983,596	3,028,250	2,429,558
Georgia Southern & Florida	June	398	211,715	32,492	269,195	39,908	45,712	2,722	99,553	195,097	72.5	74,098	52,645	34,145	682
	6 mos.	398	1,341,225	339,488	1,932,419	231,528	276,850	15,016	688,803	1,268,742	65.7	663,677	495,637	330,206	72,114
New Orleans & Northeastern	June	204	350,236	72,218	446,843	42,682	36,474	9,765	105,626	208,528	46.7	238,315	155,025	124,355	25,561
	6 mos.	204	1,954,548	322,021	2,415,506	254,099	218,010	45,775	648,663	1,251,626	51.8	1,163,880	773,115	605,191	206,898
Southern Pacific	June	8,593	15,964,351	2,429,810	19,779,377	1,613,385	3,198,558	370,225	6,542,181	12,683,365	64.1	7,096,012	5,817,990	4,734,316	2,333,288
	6 mos.	8,598	83,207,933	11,612,925	102,352,063	8,802,285	17,094,987	2,264,432	35,810,477	69,154,606	67.6	33,197,457	25,813,079	20,765,755	7,248,012
Southern Pacific Steamship Lines	June	.....	454,865	—257	474,646	11,056	Cr. 12,048	9,117	319,666	342,191	72.1	132,455	115,455	114,928	13,402
	6 mos.	.....	4,162,616	54,054	4,421,719	170,978	474,496	78,184	2,935,810	3,747,455	84.8	674,264	524,740	511,081	200,727
Texas & New Orleans	June	4,417	4,128,144	458,507	4,922,166	608,544	821,189	126,669	1,416,522	3,196,718	64.9	1,725,448	1,407,146	1,162,092	124,357
	6 mos.	4,417	22,789,813	2,246,922	27,010,041	3,511,710	4,374,769	747,257	8,318,154	18,197,044	67.4	8,812,997	6,928,871	5,321,515	1,724,120
Spokane, Portland & Seattle	June	948	1,096,406	46,919	1,213,225	236,060	86,541	11,951	327,338	695,909	57.4	517,316	437,206	334,779	—61,716
	6 mos	948	5,155,757	176,194	5,684,112	1,140,924	537,182	62,980	1,807,713	3,729,448	65.6	1,954,664	1,566,077	1,078,693	257,129
Tennessee Central	June	286	245,713	6,611	267,408	40,947	37,079	7,037	79,153	174,618	65.3	92,790	58,114	48,347	13,391
	6 mos.	286	1,316,306	26,015	1,429,737	224,092	213,157	41,896	468,222	1,008,952	70.6	420,785	294,630	223,767	145,991
Texas & Pacific	June	1,893	2,065,545	325,074	2,600,139	278,868	465,554	78,683	744,669	1,693,926	65.1	906,213	635,108	547,804	317,453
	6 mos.	1,887	12,034,693	1,446,557	14,767,617	1,566,629	2,762,933	454,323	4,407,511	9,902,902	67.1	4,864,715	3,623,581	3,100,167	2,197,794
Texas Mexican	June	162	83,790	194	98,976	14,861	12,433	3,324	33,331	70,478	71.2	28,498	21,485	17,184	—21,842
	6 mos.	162	549,805	1,947	636,338	90,277	68,825	19,109	199,297	423,391	66.5	212,947	160,300	137,006	18,563
Toledo, Peoria & Western	June	239	209,074	.....	212,846	39,458	14,956	18,068	45,401	138,034	64.9	74,812	45,654	27,709	29,743
	6 mos.	239	1,297,208	13	1,314,625	227,775	95,028	109,650	274,982	793,823	60.4	520,802	302,948	200,845	147,251
Union Pacific System	June	9,872	13,653,000	2,293,051	17,380,188	2,595,169	3,849,690	502,728	5,539,477	13,421,682	77.2	3,958,506	2,111,707	1,480,809	737,038
	6 mos.	9,884	75,553,307	9,442,787	92,404,840	11,121,657	21,541,510	2,711,495	30,734,179	70,833,415	76.7	21,571,425	11,639,281	7,870,018	6,296,520
Utah	June	111	52,055	.....	52,126	10,187	21,563	370	13,795	49,770	95.5	2,356	—7,005	—1,981	—612
	6 mos.	111	363,573	.....	364,173	52,252	130,148	2,651	101,544	311,377	85.5	52,796	—3,313	17,294	18,080
Virginian	June	653	2,420,572	2,624	2,483,703	186,199	438,698	27,150	338,994	1,028,429	41.4	1,455,274	805,274	830,829	793,954
	6 mos.	653	12,434,188	14,834	12,798,644	1,114,206	2,527,207	153,016	1,934,658	5,963,184	46.6	6,835,460	3,607,000	3,824,868	5,304,099
Wabash	June	2,409	4,233,437	283,746	4,827,285	614,674	734,132	156,204	1,629,371	3,289,994	68.2	1,537,291	1,155,113	832,355	22,142
	6 mos.	2,409	24,056,005	1,356,029	27,192,948	3,223,077	4,306,110	914,372	9,587,288	18,971,009	69.8	8,221,939	6,317,827	4,337,187	1,018,546
Ann Arbor	June	294	393,742	3,023	410,195	38,418	66,762	14,486	152,426	284,931	69.5	125,264	84,394	71,420	12,122
	6 mos.	294	2,172,310	12,206	2,239,563	176,844	417,990	81,752	920,299	1,672,021	74.7	567,542	382,175	299,920	109,186
Western Maryland	June	859	1,793,588	7,357	1,845,377	239,810	400,153	40,325	443,956	1,177,471	63.8	667,906	447,906	489,826	289,574
	6 mos.	859	10,144,318	39,562	10,527,096	1,193,263	2,253,227	247,904	2,627,363	6,646,689	63.1	3,880,407	2,780,407	2,839,482	2,455,566
Western Pacific	June	1,195	1,623,775	94,038	1,767,284	256,221	327,692	75,921	614,962	1,336,230	75.6	431,054	338,570	255,149	123,310
	6 mos.	1,195	9,025,510	341,885	9,575,857	1,265,522	1,719,651	410,941	3,571,424	7,315,625	76.4	2,260,232	1,687,591	1,118,226	305,987
Wheeling & Lake Erie	June	507	1,818,159	6	1,938,416	253,828	323,629	37,728	494,670	1,145,717	59.1	792,699	222,445	351,798	464,373
	6 mos.	507	9,306,777	32	9,791,111	1,135,682	2,021,632	227,753	2,669,094	6,265,810	64.0	3,525,301	1,245,525	2,000,807	2,135,739

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